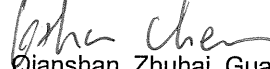


TEST REPORT IEC 60335-2-40 / EN 60335-2-40 Safety of household and similar electrical appliances Part 2: Particular requirements for electrical heat pumps, air conditioners and dehumidifier	
Report Reference No.	GZ12100571-1R3
Date of issue	June 24, 2013
Total number of pages	139
CB Testing Laboratory	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Address	Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China
Applicant's name	Gree Electric Appliances, Inc. of Zhuhai
Address	Jinji West Road, Qianshan, Zhuhai, Guangdong 519070, P. R. China
Test specification: Standard	
☐ IEC 60335-2-40:2002 (Edition 4) + A1:2005 + A2:2005 with ☐ IEC 60335-1:2001 (incl. Corrigendum 1:2002) + A1:2004 + A2:2006 (See Appendix to TRF no. IECEN60335_2_40B) and/or ☒ EN 60335-2-40:2003 + A11:2004 + A12:2005 + A1:2006 + A2:2009 (See Appendix to TRF no. IECEN60335_2_40B) with ☒ EN 60335-1:2002 + A11:2004 + A1:2004 + A12:2006 (See Appendix to TRF no. IECEN60335_2_40B) + A2:2006 (See Appendix to TRF no. IECEN60335_2_40B) + A13:2008 (See Appendix to TRF no. IECEN60335_2_40B) + A14:2010 (See Appendix to TRF no. IECEN60335_2_40B) + A15:2011 (See Appendix to TRF no. IECEN60335_2_40B) ☒ EN 62233:2008 (See Appendix to TRF no. IECEN60335_2_40B)	
Test procedure	LVD
Non-standard test method	N/A
Test Report Form No.	IECEN60335_2_40B
Test Report Form(s) Originator	VDE
Master TRF	Dated 2006-11
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Test item description	Split type, inverter, wall mounted air-conditioner
Trade Mark	GREE
Manufacturer	Gree Electric Appliances, Inc. of Zhuhai
Model/Type reference.....	GWH24RD-K3DNA2C, GWH24RD-K3DNA3C, GWH24RD-K3DNA6C, GWH24RD-K3DNA8C, GWH24RD-K3DBA5E, GWH24RD-K3DBE1E, GWH24RD-K3DNA5C, GWH24RD-K3DBA3E
Ratings	220-240V~, 50Hz, Class I, IP24 for outdoor unit; Cooling: 3050W; Heating: 4000W; R410A: 2,0kg

Testing procedure and testing location:	
☒ CB Testing Laboratory:	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Testing location/ address	Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China
☐ Associated CB Laboratory:	
Testing location/ address	N/A
Tested by (name + signature)	N/A
Approved by (+ signature)	N/A
☒ Testing procedure: TMP	Gree Electric Appliances, Inc. of Zhuhai
Tested by (name + signature)	Sam Yang 
Approved by (+ signature)	Ethan Chen 
Testing location/ address	Jinji West Road, Qianshan, Zhuhai, Guangdong 519070, P. R. China
☐ Testing procedure: WMT	
Tested by (name + signature)	N/A
Witnessed by (+ signature)	N/A
Approved by (+ signature)	N/A
Testing location/ address	N/A
☐ Testing procedure: SMT	
Tested by (name + signature)	N/A
Approved by (+ signature)	N/A
Supervised by (+ signature)	N/A
Testing location/ address	N/A
☐ Testing procedure: RMT	
Tested by (name + signature)	N/A
Approved by (+ signature)	N/A
Supervised by (+ signature)	N/A
Testing location/ address	N/A

Summary of testing:

TRF No. IECEN60335_2_40B

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China

Tel: (86-20) 8213 9688 Fax: (86-20) 32057538

Tests performed (name of test and test clause):
Original:

Full tests were conducted on model GWH24RD-K3DNA3C.

A construction check was conducted on all the models.

Clause 32 was conducted on model GWH24RD-K3DNA3C according to the standard of EN 60335-2-65.

Modification 1:

Test of clause 10 was conducted on model GWH24RD-K3DNA8C.

Modification 2:

After review, no test was needed.

Modification 3:

After review, no test was needed.

The product was tested complies with the requirements of these standards.

Testing location:

Intertek Testing Services Shenzhen Ltd.
Guangzhou Branch
Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China

Gree Electric Appliances, Inc. of Zhuhai
Jinji West Road, Qianshan, Zhuhai, Guangdong
519070, P. R. China

Summary of compliance with National Differences: N/A
Copy of marking plate:

**SPLIT AIR CONDITIONER
INDOOR UNIT**

Model	GWH24RD-K3DNA3C/I
Rated Voltage	220-240V~
Rated Frequency	50Hz
Cooling Capacity	6450W
Heating Capacity	6450W
Air Flow Volume	1000m ³ /h
Sound Pressure Level(H)	45dB(A)
Weight	15.5kg
Manufactured Date	

GREE

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

CE  

63382435

GREE AIR CONDITIONER OUTDOOR UNIT

Model	GWH24RD-K3DNA3C/O		
Rated Voltage	220-240V~	(ISO 5151)	
Rated Frequency	50Hz	Cooling Capacity	6450W
Climate Type	T1	Heating Capacity	6450W
Weight	62.5kg	Cooling Power Input	1940W
Isolation	I	Heating Power Input	1910W
Refrigerant	R410A	Cooling Rated Input	3050W
Refri. Charge	2.0kg	Heating Rated Input	4000W
Comp. LRA	25A	Sound Pressure Level	58dB(A)
Maximum Allowable Pressure			4.3MPa
Operating Pressure (Discharge Side/Suction Side)			4.3/2.5MPa
Manufactured Date		Moisture Protection	IP24

Contains fluorinated greenhouse gases covered by the Kyoto Protocol

CE  **GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI** 

63363578

**SPLIT AIR CONDITIONER
INDOOR UNIT**

Model GWH24RD-K3DNA2C/I
 Rated Voltage 220-240V~
 Rated Frequency 50Hz
 Cooling Capacity 6450W
 Heating Capacity 6450W
 Air Flow Volume 1000m³/h
 Sound Pressure Level(H) 45dB(A)
 Weight 15.5kg
 Manufactured Date



GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



63382576

GREE AIR CONDITIONER OUTDOOR UNIT

Model	GWH24RD-K3DNA3C/O		
Rated Voltage	220-240V~	(ISO 5151)	
Rated Frequency	50Hz	Cooling Capacity	6450W
Climate Type	T1	Heating Capacity	6450W
Weight	62.5kg	Cooling Power Input	1940W
Isolation	I	Heating Power Input	1910W
Refrigerant	R410A	Cooling Rated Input	3050W
Refri. Charge	2.0kg	Heating Rated Input	4000W
Comp. LRA	25A	Sound Pressure Level	58dB(A)
Maximum Allowable Pressure			4.3MPa
Operating Pressure (Discharge Side/Suction Side)			4.3/2.5MPa
Manufactured Date		Moisture Protection	IP24

Contains fluorinated greenhouse gases covered by the Kyoto Protocol



GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



63363578

**SPLIT AIR CONDITIONER
INDOOR UNIT**

Model GWH24RD-K3DNA6C/I
 Rated Voltage 220-240V~
 Rated Frequency 50Hz
 Cooling Capacity 6450W
 Heating Capacity 6450W
 Air Flow Volume 1000m³/h
 Sound Pressure Level(H) 45dB(A)
 Weight 15.5kg
 Manufactured Date



GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



63382940

GREE AIR CONDITIONER OUTDOOR UNIT

Model	GWH24RD-K3DNA3C/O		
Rated Voltage	220-240V~	(ISO 5151)	
Rated Frequency	50Hz	Cooling Capacity	6450W
Climate Type	T1	Heating Capacity	6450W
Weight	62.5kg	Cooling Power Input	1940W
Isolation	I	Heating Power Input	1910W
Refrigerant	R410A	Cooling Rated Input	3050W
Refri. Charge	2.0kg	Heating Rated Input	4000W
Comp. LRA	25A	Sound Pressure Level	58dB(A)
Maximum Allowable Pressure			4.3MPa
Operating Pressure (Discharge Side/Suction Side)			4.3/2.5MPa
Manufactured Date		Moisture Protection	IP24

Contains fluorinated greenhouse gases covered by the Kyoto Protocol



GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



63363578

**SPLIT AIR CONDITIONER
INDOOR UNIT**

Model GWH24RD-K3DNA8C/I
 Rated Voltage 220-240V~
 Rated Frequency 50Hz
 Cooling Capacity 6450W
 Heating Capacity 6450W
 Air Flow Volume 1000m³/h
 Sound Pressure Level(H) 45dB(A)
 Weight 15kg
 Manufactured Date



GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



63382686

GREE AIR CONDITIONER OUTDOOR UNIT

Model	GWH24RD-K3DNA8C/O		
Rated Voltage	220-240V~	Cooling Capacity	6450W
Rated Frequency	50Hz	Heating Capacity	6450W
Climate Type	T1	Cooling Power Input	1940W
Weight	62.5kg	Heating Power Input	1910W
Isolation	I	Cooling Rated Input	3050W
Refrigerant	R410A	Heating Rated Input	4000W
Refri. Charge	2.0kg	Sound Pressure Level	58dB(A)
Maximum Allowable Pressure			4.3MPa
Operating Pressure (Discharge Side/Suction Side)			4.3/2.5MPa
Manufactured Date		Moisture Protection	IP24

Contains fluorinated greenhouse gases covered by the Kyoto Protocol

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



63363702



**SPLIT AIR CONDITIONER
INDOOR UNIT**

Model GWH24RD-K3DBA5E/I
Rated Voltage 220-240V~
Rated Frequency 50Hz
Cooling Capacity 6450W
Heating Capacity 6450W
Air Flow Volume 1000m³/h
Sound Pressure Level(H) 45dB(A)
Weight 14kg
Manufactured Date

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



63382944



AIR CONDITIONER OUTDOOR UNIT

Model		GWH24RD-K3DBA5E/O	
Rated Voltage	220-240V~	Cooling Capacity	6450W
Rated Frequency	50Hz	Heating Capacity	6450W
Climate Type	T1	Cooling Power Input	1940W
Weight	63kg	Heating Power Input	1910W
Isolation	I		
Refrigerant	R410A	Cooling Rated Input	3050W
Refri. Charge	2.0kg	Heating Rated Input	4000W
Sound Pressure Level		58dB(A)	
Maximum Allowable Pressure		4.3MPa	
Operating Pressure (Discharge Side/Suction Side)		4.3/2.5MPa	
Manufactured Date		Moisture Protection	IP24

Contains fluorinated greenhouse gases covered by the Kyoto Protocol

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



63363743



**SPLIT AIR CONDITIONER
INDOOR UNIT**

Model GWH24RD-K3DBE1E/I
Rated Voltage 220-240V~
Rated Frequency 50Hz
Cooling Capacity 6450W
Heating Capacity 6450W
Air Flow Volume 1000m³/h
Sound Pressure Level(H) 45dB(A)
Weight 14kg
Manufactured Date

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



63262000077



AIR CONDITIONER OUTDOOR UNIT

Model		GWH24RD-K3DBA5E/O	
Rated Voltage	220-240V~	Cooling Capacity	6450W
Rated Frequency	50Hz	Heating Capacity	6450W
Climate Type	T1	Cooling Power Input	1940W
Weight	63kg	Heating Power Input	1910W
Isolation	I		
Refrigerant	R410A	Cooling Rated Input	3050W
Refri. Charge	2.0kg	Heating Rated Input	4000W
Sound Pressure Level		58dB(A)	
Maximum Allowable Pressure		4.3MPa	
Operating Pressure (Discharge Side/Suction Side)		4.3/2.5MPa	
Manufactured Date		Moisture Protection	IP24

Contains fluorinated greenhouse gases covered by the Kyoto Protocol

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



63363743



**SPLIT AIR CONDITIONER
INDOOR UNIT**

Model GWH24RD-K3DNA5C/I
Rated Voltage 220-240V~
Rated Frequency 50Hz
Cooling Capacity 6450W
Heating Capacity 6450W
Air Flow Volume 1000m³/h
Sound Pressure Level(H) 45dB(A)
Weight 15kg
Manufactured Date

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



63262000172



AIR CONDITIONER OUTDOOR UNIT

Model		GWH24RD-K3DNA8C/O	
Rated Voltage	220-240V~	Cooling Capacity	6450W
Rated Frequency	50Hz	Heating Capacity	6450W
Climate Type	T1	Cooling Power Input	1940W
Weight	62.5kg	Heating Power Input	1910W
Isolation	I		
Refrigerant	R410A	Cooling Rated Input	3050W
Refri. Charge	2.0kg	Heating Rated Input	4000W
Sound Pressure Level		58dB(A)	
Maximum Allowable Pressure		4.3MPa	
Operating Pressure (Discharge Side/Suction Side)		4.3/2.5MPa	
Manufactured Date		Moisture Protection	IP24

Contains fluorinated greenhouse gases covered by the Kyoto Protocol

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



63363702

 SPLIT AIR CONDITIONER INDOOR UNIT Model GWH24RD-K3DBA3E/I Rated Voltage 220-240V~ Rated Frequency 50Hz Cooling Capacity 6450W Heating Capacity 6450W Air Flow Volume 1000m³/h Sound Pressure Level(H) 45dB(A) Weight 14kg Manufactured Date GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI   63262000168		 AIR CONDITIONER OUTDOOR UNIT <table border="1"> <tr> <th colspan="2">Model</th> <th colspan="2">GWH24RD-K3DBA5E/O</th> </tr> <tr> <td>Rated Voltage</td> <td>220-240V~</td> <td>Cooling Capacity</td> <td>6450W</td> </tr> <tr> <td>Rated Frequency</td> <td>50Hz</td> <td>Heating Capacity</td> <td>6450W</td> </tr> <tr> <td>Climate Type</td> <td>T1</td> <td>Cooling Power Input</td> <td>1940W</td> </tr> <tr> <td>Weight</td> <td>63kg</td> <td>Heating Power Input</td> <td>1910W</td> </tr> <tr> <td>Isolation</td> <td>I</td> <td></td> <td></td> </tr> <tr> <td>Refrigerant</td> <td>R410A</td> <td>Cooling Rated Input</td> <td>3050W</td> </tr> <tr> <td>Refri. Charge</td> <td>2.0kg</td> <td>Heating Rated Input</td> <td>4000W</td> </tr> <tr> <td colspan="2">Sound Pressure Level</td> <td colspan="2">58dB(A)</td> </tr> <tr> <td colspan="2">Maximum Allowable Pressure</td> <td colspan="2">4.3MPa</td> </tr> <tr> <td colspan="2">Operating Pressure (Discharge Side/Suction Side)</td> <td colspan="2">4.3/2.5MPa</td> </tr> <tr> <td>Manufactured Date</td> <td></td> <td>Moisture Protection</td> <td>IP24</td> </tr> </table> Contains fluorinated greenhouse gases covered by the Kyoto Protocol GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI   63363743		Model		GWH24RD-K3DBA5E/O		Rated Voltage	220-240V~	Cooling Capacity	6450W	Rated Frequency	50Hz	Heating Capacity	6450W	Climate Type	T1	Cooling Power Input	1940W	Weight	63kg	Heating Power Input	1910W	Isolation	I			Refrigerant	R410A	Cooling Rated Input	3050W	Refri. Charge	2.0kg	Heating Rated Input	4000W	Sound Pressure Level		58dB(A)		Maximum Allowable Pressure		4.3MPa		Operating Pressure (Discharge Side/Suction Side)		4.3/2.5MPa		Manufactured Date		Moisture Protection	IP24
Model		GWH24RD-K3DBA5E/O																																																	
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Operating Pressure (Discharge Side/Suction Side)		4.3/2.5MPa																																																	
Manufactured Date		Moisture Protection	IP24																																																

Test item particulars	Split type air conditioner
Classification of installation and use	Fixed appliance
Supply Connection.....	Permanently connected to fixed wiring
.....	
.....	
Possible test case verdicts:	
- test case does not apply to the test object.....	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item	June 08, 2013
Date (s) of performance of tests	June 08, 2013 – June 24, 2013
General remarks:	

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(See Enclosure #)" refers to additional information appended to the report.

"(See appended table)" refers to a table appended to the report.

Note: EN Group Differences together with National Differences and Special National Conditions, if any, are in the Appendix to the main body of this TRF.

Throughout this report a comma is used as the decimal separator.

When determining the test result, measurement uncertainty has been considered.

Note: The Requirements of IEC 60335-2-40 and EN 60335-2-40 in clause 15 are by identical content different numbered. For better handling the column "Clause" contains an additional Information "IEC" or "EN".

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The test report only allows to be revised only within the report defined retention period unless standard or regulation was withdrawn or invalid.

General product information:

Manufacturing Site: Gree Electric Appliances, Inc. of Zhuhai
Jinji West Road, Qianshan, Zhuhai, Guangdong 519070, P.R. China

Original:

The appliances are split type, inverter, wall mounted air-conditioner with cooling and heating operate mode intend for household use. The indoor unit must be installed at the height of 2,5m above the floor of indoor and outdoor unit must be installed at outdoor side.

The power supplied by indoor unit via a supply lead permanently connected to fixed wiring, and the indoor unit and outdoor unit via interconnection cords for communication of power supply and signal.

Model differences:

GWH24RD-K3DNA2C is the same as GWH24RD-K3DNA3C except front panel of indoor unit.

Model list:

Model name	Indoor unit	Outdoor unit
GWH24RD-K3DNA3C	GWH24RD-K3DNA3C/I	GWH24RD-K3DNA3C/O
GWH24RD-K3DNA2C	GWH24RD-K3DNA2C/I	

Modification 1:

This test report replaces the original test report GZ12100571-1, dated on December 19, 2012, it is issued for the following changes:

1. Changed the "Heating Rated Input" from 2700W to 4000W on the nameplate of GWH24RD-K3DNA3C/O for models GWH24RD-K3DNA2C and GWH24RD-K3DNA3C.
2. Added 3 new models GWH24RD-K3DNA6C, GWH24RD-K3DNA8C and GWH24RD-K3DBA5E.
Model GWH24RD-K3DNA6C is identical to GWH24RD-K3DNA3C except front panel of indoor unit.
Models GWH24RD-K3DNA8C and GWH24RD-K3DBA5E are identical to GWH24RD-K3DNA3C except front panel of indoor unit and power supplied, the new models are supplied by outdoor unit and via interconnection cord for connecting of indoor and outdoor unit.

3. The new model GWH24RD-K3DBA5E can be operated at the lower ambient of -20°C than the original model GWH24RD-K3DNA3C, and the new model employing heating element for chassis at outdoor unit, refer to attaché photo for details.
4. Added some components such as main board M846F2UEJ, interconnection cord and terminal blocks for the new models, see table 24.1 for details, main board M846F2UEJ and M846F2TAJ are the same as original M846F2TJ except control software that does not affect the safety of product.

Model list:

Model name	Indoor unit	Outdoor unit
GWH24RD-K3DNA6C	GWH24RD-K3DNA6C/I	GWH24RD-K3DNA3C/O
GWH24RD-K3DNA8C	GWH24RD-K3DNA8C/I	GWH24RD-K3DNA8C/O
GWH24RD-K3DBA5E	GWH24RD-K3DBA5E/I	GWH24RD-K3DBA5E/O

Modification 2:

This test report replaces the original test report GZ12100571-1R1, dated on March 20, 2013, it is issued for the following changes:

1. Added a new model GWH24RD-K3DBE1E which is identical to GWH24RD-K3DBA5E except for front panel of indoor unit.
2. Corrected the weight of outdoor unit on the nameplate for model GWH24RD-K3DBA5E from 68kg to 63kg.

Model list:

Model name	Indoor unit	Outdoor unit
GWH24RD-K3DBE1E	GWH24RD-K3DBE1E/I	GWH24RD-K3DBA5E/O

Modification 3:

This test report replaces the original test report GZ12100571-1R2, dated on April 28, 2013, it is issued for the following changes:

1. Added 2 new models GWH24RD-K3DNA5C and GWH24RD-K3DBA3E which are identical to GWH24RD-K3DNA8C and GWH24RD-K3DBA5E respectively except for front panel of indoor unit.
2. Added alternative relays and Y capacitor, refer to Table 24.1 for details.

Model list:

Model name	Indoor unit	Outdoor unit
GWH24RD-K3DNA5C	GWH24RD-K3DNA5C/I	GWH24RD-K3DNA8C/O
GWH24RD-K3DBA3E	GWH24RD-K3DBA3E/I	GWH24RD-K3DBA5E/O

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
5	GENERAL CONDITIONS FOR THE TESTS		—
	Tests performed according to cl. 5, e.g. nature of supply, sequence of testing, etc.		P
5.2	If the test of Annex D has to be carried out, an additional appliance may be used. (IEC/EN 60335-1/A1)		N/A
	The testing of Clause 21 to be carried out on separate samples. The testing of Clauses 11, 19 and 21 required that pressure measurements be made at various points in the refrigerating system. (IEC/EN 60335-2-40/A1)		P
	At least one additional specially prepared sample is required for the tests of Annex FF (Leak simulation tests), if that test option is selected (IEC/EN 60335-2-40/A1)		N/A
	The temperatures on the refrigerant piping is measured during the test of Clause 11. (IEC/EN 60335-2-40/A1)		P
5.3	The tests of Clause 14 and 21.2 and 22.24 are carried out after the tests of Clause 29. (IEC/EN 60335-1/A1)		N/A
5.6	Appropriate controls rendered inoperative during the test (IEC/EN 60335-2-40)		P
5.10	For split-package units, the refrigerant lines shall be installed in accordance with the installation instructions.. EC 60335-2-40:2002)		P
	The refrigerant line length shall be the maximum length stated in the installation instructions or 7,5 m, whichever is the shorter. (IEC/EN 60335-2-40)		P
	The thermal insulation of the refrigerant lines shall be applied in accordance with the installation instructions. (IEC/EN 60335-2-40)		P
5.14	NOTE: Guidance is given in Annex P for enhanced requirements that may be used to ensure an acceptable level of protection against electrical and thermal hazards for particular types of appliances used in an installation without a protective earthing conductor in countries that have warm damp equable climates. (IEC/EN 60335-1/A1)		N/A
5.101	Motor-compressor comply with IEC 60335-2-34 (IEC/EN 60335-2-40)	QXAS-D23zX090B	P
	Motor-compressor subjected to the relevant test (IEC/EN 60335-2-40)		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
5.102	Motor compressors that are tested and comply with IEC 60335-2-34 need not be additionally tested for Clause 21. (IEC/EN 60335-2-40/A1)		P

6	CLASSIFICATION		—
6.1	Protection against electric shock: Class I, II, III (IEC/EN 60335-2-40)	Class I	P
6.2	Protection against harmful ingress of water, IP degree in accordance with IEC 60529 (IEC/EN 60335-2-40)		P
	Appliance for outdoor use (IEC/EN 60335-2-40)	IP24 for outdoor unit	P
	Appliance for indoor use (IEC/EN 60335-2-40)		N/A
	Appliance for laundry rooms (IEC/EN 60335-2-40)		N/A
6.101	Degree of accessibility (accessible/not accessible to the general public) (IEC/EN 60335-2-40)	Accessible to the general public	P

7	MARKING AND INSTRUCTIONS		—
7.1	Rated voltage or voltage range (V)	220-240	P
	Symbol for nature of supply including number of phases, unless for single phase operation (IEC/EN 60335-2-40).....	~	P
	Rated frequency (Hz)	50	P
	Rated power input (W)	See page 2	P
	Rated current (A)		N/A
	Manufacturer's or responsible vendor's name, trademark or identification mark	GREE	P
	Model or type reference	See page 2	P
	Symbol 5172 of IEC 60417, for Class II appliances	Class I appliance	N/A
	Symbol IEC 60417-5036, for the enclosure of electrically-operated water valves in external hose-sets for connection of an appliance to the water mains (IEC/EN 60335-1/A1)		N/A
	Mass of the refrigerant or of each refrigerant in a blend (except for azeotropic type) (IEC/EN 60335-2-40):	See page 2	P

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	Refrigerant identification (IEC/EN 60335-2-40)	R410A	P
	Permissible excessive operating pressure for sanitary hot water heat pumps (IEC/EN 60335-2-40):		N/A
	the maximum operating pressure for the heat exchanger for hydronic fan coil/air handling units; (IEC 60335-2-40/A2):		N/A
	Excessive operating pressure of the refrigerant circuit for suction and discharge, if they differ (IEC/EN 60335-2-40).....:	Discharge side: 4,3MPa; Suction side: 2,5MPa	P
	Symbol for degree of protection against ingress of water, other than IPX0 (IEC/EN 60335-2-40):	IP24 for outdoor unit	P
	Separate marking of the appliances with all the rated characteristics of the supplementary heaters (IEC/EN 60335-2-40):		N/A
	Marking of the direction of the fluid flow (IEC/EN 60335-2-40):		N/A
	The flame symbol and the instruction manual symbol of 7.6 is visible when a flammable refrigerant is employed and the following conditions exist: (IEC/EN 60335-2-40/A1)		—
	– accessing parts expected to be subjected to maintenance or repair;		N/A
	– observing the appliance under sale or installed conditions;		N/A
	– observing the appliance packaging, if the appliance is charged with refrigerant.		N/A
	If a flammable refrigerant is used, the symbols for reading the user manual, the repair manual and the installation manual (symbols 3084, 3038 and 1785 of ISO 7000) shall be placed on the appliance in a location visible to the persons required to know the information. The perpendicular height shall be at least 10 mm. (IEC/EN 60335-2-40/A1)		N/A
	An additional warning symbol (flame symbol: B.3.2 of ISO 3864) shall be placed on the nameplate of the unit near the declaration of the refrigerant type and charge information. The perpendicular height shall be at least 10 mm, and the symbol need not be in colour. (IEC/EN 60335-2-40/A1)		N/A
	The following warning shall also be applied to the appliance when a flammable refrigerant is employed. WARNING		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	Appliance shall be installed, operated and stored in a room with a floor area larger than 'X' m ² (only applies to appliances that are not fixed appliances). (IEC/EN 60335-2-40/A1)		
	For appliances, which are not fixed appliances, the minimum room size X shall be specified on the appliance. The X in the marking shall be determined in m ² by the procedure described in paragraph 2 of Annex GG for unventilated areas and the X in the marking shall be 4 if the refrigerant charge of the appliance is less than m ₁ (see Annex GG, paragraph 1.1). (IEC/EN 60335-2-40/A1)		N/A
	The maximum allowable pressure for the low-pressure side and the high-pressure side is marked on the product. (IEC/EN 60335-2-40/A1)		N/A
	If not already visible when accessing a service port and if a service port is provided, the service port shall be marked to identify the type of refrigerant. If the refrigerant is flammable, symbol B.3.2 of ISO 3864, shall be included, without specifying the colour. (IEC/EN 60335-2-40/A1)		N/A
7.2	Warning for stationary appliances for multiple supply		N/A
	Warning placed in vicinity of terminal cover		N/A
7.3	Range of rated values marked with the lower and upper limits separated by a hyphen		P
	Different rated values marked with the values separated by an oblique stroke		N/A
7.4	Appliances adjustable for different rated voltages, the voltage setting is clearly discernible		N/A
7.5	Appliances with more than one rated voltage or one or more rated voltage ranges, marked with rated input or rated current for each rated voltage or range, unless		N/A
	the power input is related to the mean value of the rated voltage range	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear		N/A
7.6	Correct symbols used		P
	When a flammable refrigerant is employed, a warning symbol B.3.2 of ISO 3864, including colour and format, shall be permanently placed on the appliance. The perpendicular height of		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	the triangle containing the “Caution, risk of fire” symbol shall be at least 30 mm. (IEC/EN 60335-2-40/A1)		
	When a flammable refrigerant is employed, a symbol requiring reference to the manual [B.3.2 of ISO 3864], including colour and format, shall be permanently placed on the appliance. (IEC/EN 60335-2-40/A1)		N/A
7.7	Connection diagram fixed to appliances to be connected to more than two supply conductors and appliances for multiple supply		P
7.8	Except for type Z attachment, terminals for connection to the supply mains indicated as follows:		—
	- marking of terminals exclusively for the neutral conductor (N)		N/A
	- marking of protective earthing terminals (symbol 5019 of IEC 60417)		P
	- marking not placed on removable parts		P
7.9	Marking or placing of switches which may cause a hazard		P
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means	By use of figures, letters or other visual means	P
	The figure 0 indicates only OFF position, unless no confusion with the OFF position		N/A
7.11	Indication for direction of adjustment of controls		P
7.12	Instructions for safe use provided		P
	Classification of 6.101 included, for appliances not accessible to general public (IEC/EN 60335-2-40)		N/A
	For appliances using flammable refrigerants, an installation, service and operation manual, either separate or combined manuals, shall be provided and include the information given in Annex DD. (IEC/EN 60335-2-40/A1)		N/A
7.12.1	Sufficient details for installation or maintenance supplied (IEC/EN 60335-2-40):		—
	- national wiring regulations for installation		P
	- dimensions of space for installation		P
	- minimum clearance from appliances with supplementary heaters to combustible surfaces		N/A
	- wiring diagram		P

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	- range of external static pressures (only heat pumps and appliances with electric resistance heaters)		N/A
	- method of connection to the electrical supply and interconnection of separate components		P
	- indication of suitable parts for outdoor use		P
	- type and rated characteristics of fuses		P
	- details of supplementary heating elements, including fitting instructions		N/A
	- maximum and minimum water or brine operating temperatures		N/A
	- maximum and minimum water or brine operating pressures		N/A
	- indication of open water storage tanks		N/A
	For appliances not accessible to the general public and which are intended to be permanently connected to fixed wiring and which may have leakage currents exceeding 10 mA, the installation instructions shall specify the rating of the residual current device (RCD) to be installed. (EN 60335-2-40/A12)		N/A
7.12.2	Stationary appliances not fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under overvoltage category III, the instructions state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules		P
7.12.3	Insulation of the fixed wiring in contact with parts exceeding 50 K during clause 11; instructions stating that the fixed wiring must be protected		N/A
7.12.4	Instructions for built-in appliances:		—
	- dimensions of space		N/A
	- dimensions and position of supporting means		N/A
	- distances between parts and surrounding structure		N/A
	- dimensions of ventilation openings and arrangement		N/A
	- connection to supply mains and interconnection of separate components		N/A
	- allow disconnection of the appliance after installation, by accessible plug or a switch in the fixed wiring, unless (IEC/EN 60335-1/A1)		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	a switch complying with 24.3 (IEC/EN 60335-1/A1)		N/A
	The disconnection may be achieved by having the plug accessible or by incorporating a switch in the fixed wiring in accordance with the wiring rules. (IEC/EN 60335-1/A1)		N/A
7.12.5	Replacement cord instructions, type X attachment with a specially prepared cord		N/A
	Replacement cord instructions, type Y attachment		P
	Replacement cord instructions, type Z attachment		N/A
7.12.6	Caution in the instructions for heating appliances with a non-self resetting thermal cut-out (IEC/EN 60335-1/A1)		N/A
7.12.7	Instructions for fixed appliances stating how the appliance is to be fixed (IEC/EN 60335-1/A1)		P
7.12.8	Instructions for appliances connected to the water mains: (IEC/EN 60335-1/A1)		—
	- max. inlet water pressure (Pa) (IEC/EN 60335-1/A1):		N/A
	- min. inlet water pressure, if necessary (Pa) (IEC/EN 60335-1/A1):		N/A
	Instructions concerning new and old hose-sets for appliances connected to the water mains by detachable hose-sets (IEC/EN 60335-1/A1)		N/A
7.13	Instructions and other texts in an official language	In English	P
7.14	Marking clearly legible and durable		P
7.15	Marking on a main part		P
	Marking clearly discernible from the outside, if necessary after removal of a cover		P
	For portable appliances, cover can be removed or opened without a tool		N/A
	For stationary appliances, name, trademark or identification mark and model or type reference visible after installation		P
	For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions		P
	Indications for switches and controls placed on or near the components. Marking not on parts which can be positioned or repositioned in such a way that the marking is misleading		P
	Marking on panel allowed, provided panel in place		N/A

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	for intended operation of appliance (IEC/EN 60335-2-40)		
7.16	Marking of a possible replaceable thermal link or fuse link clearly visible with regard to replacing the link		N/A
7.101	Marking of fuses and overload protective devices, if replaceable (IEC/EN 60335-2-40):		—
	- fuse rated current in amperes, type and rated voltage (IEC/EN 60335-2-40)		N/A
	- manufacturer and model of the overload protective device (IEC/EN 60335-2-40)		N/A
7.102	Marking for connection with aluminium wire, if necessary (IEC/EN 60335-2-40)		N/A

8	PROTECTION AGAINST ACCESS TO LIVE PARTS		—
8.1	Adequate protection against accidental contact with live parts		P
8.1.1	Requirement applies for all positions, detachable parts removed		P
	Insertion or removal of lamps, protection against contact with live parts of the lamp cap		N/A
	Use of test probe B of IEC 61032: no contact with live parts		P
8.1.2	Use of test probe 13 of IEC 61032 through openings in class 0 appliances and class II appliances/ constructions: no contact with live parts		P
	Test probe 13 also applied through openings in earthed metal enclosures having a non-conductive coating: no contact with live parts		N/A
8.1.3	For appliances other than class II, use of test probe 41 of IEC 61032: no contact with live parts of visible glowing heating elements		N/A
8.1.4	Accessible part not considered live if:		—
	- safety extra-low a.c. voltage: peak value not exceeding 42.4 V		N/A
	- safety extra-low d.c. voltage: not exceeding 42.4 V	For wireless remote controller only.	P
	- or separated from live parts by protective impedance		N/A
	If protective impedance: d.c. current not exceeding 2 mA, and		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	a.c. peak value not exceeding 0.7 mA		N/A
	- for peak values over 42.4 V up to and including 450 V, capacitance not exceeding 0,1 μ F		N/A
	- for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 μ C		N/A
	The quantity of electricity in the discharge is measured using a resistor having a nominal non-inductive resistance of 2 000 Ω (IEC/EN 60335-1/A1)		N/A
8.1.5	Live parts protected at least by basic insulation before installation or assembly:		—
	- built-in appliances		N/A
	- fixed appliances		P
	- appliances delivered in separate units		P
8.2	Class II appliances and constructions constructed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only		P
	Neither bare live parts nor basic isolated live parts are touchable with the test finger through openings in the enclosure. The lead wires of plasma ion generator have double insulation. Internal basic insulation wires are well-fixed and supplementary insulation from accessible screw.		--
	Only possible to touch parts separated from live parts by double or reinforced insulation		P

9	STARTING OF MOTOR-OPERATED APPLIANCES		—
	Not applicable (IEC/EN 60335-2-40)		N/A

10	POWER INPUT AND CURRENT		—
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1	(see appended table)	P
10.2	Current at normal operating temperature, rated voltage and normal operation not deviating from rated current by more than shown in table 2	(see appended table)	N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
11	HEATING		—
11.1	No excessive temperatures in normal use (IEC/EN 60335-2-40)		P
	Compliance is checked by the tests of Annex C, if (IEC/EN 60335-2-40):		—
	- temperature of motor winding exceeds values shown in Table 3 (IEC/EN 60335-2-40)		N/A
	- there is no doubt about the classification of the insulation system of the motor (IEC/EN 60335-2-40)		N/A
11.2	Placing and mounting of appliance (IEC/EN 60335-2-40):		—
	- clearances to adjacent surfaces		P
	- flow rates for liquid source or sink equipment, except for fan coils where the flow rates and liquid temperatures shall be the maximum specified in the manufacturer's instructions; (IEC 60335-2-40/A2)		N/A
	- static pressures		N/A
	- adjustable limit controls set at the maximum cut- out setting and the minimum differential		N/A
	For appliances with supplementary heaters, use test casing of 11.9 (IEC/EN 60335-2-40)		N/A
11.2.1	For appliances with supplementary heaters, an inlet duct is connected to the inlet air opening (IEC/EN 60335-2-40)		N/A
11.2.2	Air outlet duct if necessary (IEC/EN 60335-2-40)		N/A
11.3	Temperature rise determine by thermocouples or resistance method (IEC/EN 60335-2-40)		P
11.4	Test performed at supply voltage between 0,94 and 1.06 times the rated voltage (IEC/EN 60335-2-40)	1,06x240=254,4V	P
	Heating appliances operated under normal operation at 1.15 times rated power input (IEC/EN 60335-2-40)		N/A
11.5	Test conducted in the heating mode and in the cooling mode, if both exist (IEC/EN 60335-2-40)		P
	All supplementary heating elements operative simultaneously (IEC/EN 60335-2-40)		N/A
11.6	Defrost test in the most unfavourable conditions,		N/A

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	if needed (IEC/EN 60335-2-40)		
11.7	Appliances operated continuously until steady conditions except for defrost tests (IEC/EN 60335-2-40)		P
11.8	Monitored temperatures not exceeding the values of Table 3 (IEC/EN 60335-2-40)	(See appended table)	P
	Protective devices do not operate (IEC/EN 60335-2-40)		P
	However, components in protective electronic circuits are allowed to operate provided they are tested for the number of cycles of operation specified in 24.1.4 (IEC/EN 60335-1/A1)		N/A
	The temperature rise limit does not apply to switches or controls tested in accordance with the conditions occurring in the appliance. (IEC/EN 60335-1/A1)		N/A
	Sealing compound not flowing out (IEC/EN 60335-2-40)		P
	Temperature of the air in the outlet duct not exceeding 90°C (IEC/EN 60335-2-40)		N/A
11.9	Test casing and installation of the rest of the appliances in accordance with the manufacturer's instructions (IEC/EN 60335-2-40)		N/A
	Glass fibre insulation for appliances without indication of minimum clearances according to the manufacturer; the thermocouple in contact with the enclosure (IEC/EN 60335-2-40)		N/A

13	LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE		—
13.1	Leakage current not excessive and electric strength adequate		P
	Heating appliances operated at 1.15 times rated power input		N/A
	Motor-operated appliances and combined appliances supplied at 1.06 times rated voltage.....	1,06x240=254,4V	P
	Protective impedance and radio interference filters disconnected before carrying out the tests		P
13.2	Leakage current measured by means of the circuit described in figure 4 of IEC 60990		P
	Leakage current measurements	(see appended table)	P

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
13.3	The appliance is disconnected from the supply and the insulation is immediately subjected to a voltage having a frequency of 50 Hz or 60 Hz for 1 min, in accordance with IEC 61180-1. (IEC/EN 60335-1/A1)		P
	The high-voltage source used for the test is to be capable of supplying a short circuit current Is between the output terminals after the output voltage has been adjusted to the appropriate test voltage.(IEC/EN 60335-1/A1)	(see appended table)	P
	The overload release of the circuit is not to be operated by any current below the tripping current Ir. The values of Is and Ir are given in Table 5 for various high-voltage sources. (IEC/EN 60335-1/A1)	(see appended table)	P
	No breakdown during the tests		P

14	TRANSIENT OVERVOLTAGES		—
	Appliances withstand the transient overvoltages to which they may be subjected		N/A
	Clearances having a value less than specified in table 16 subjected to an impulse voltage test, the test voltage specified in table 6	(see appended table)	N/A
	No flashover during the test, unless of functional insulation		N/A
	In case of flashover of functional insulation, the appliance complies with clause 19 with the clearance short circuited		N/A

15	MOISTURE RESISTANCE		—
15.1 (IEC)	Enclosure provides the degree of moisture protection against the ingress of water (rain, overflow from the drain pan or defrosting, tests of 15.2, 15.3, 11.6 and Cl. 16) (IEC/EN 60335-2-40)		N/A
(IEC)	Motor-compressor not operated and detachable parts are removed during 15.2 and 15.3 (IEC 60335-2-40/A2)		N/A
(EN)	Enclosure provides the degree of moisture protection against the ingress of water (rain, overflow from the drain pan or defrosting, tests of 15.1.1, 15.1.2, 15.2, 11.6 and Cl. 16) (EN 60335-2-40)		P

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
(EN)	After test, water inside the enclosure has not reduced the creepage distances and clearances below the values of Cl. 29 (EN 60335-2-40)		P
(EN)	Water valves containing live parts and that are incorporated in external hoses for connection of an appliance to the water mains are subjected to the test specified for IPX7 appliances. (IEC/EN 60335-1/A1)		N/A
15.1.2 (EN)	Appliances normally fixed to a ceiling are mounted underneath a horizontal unperforated support that is constructed to prevent water spraying onto its top surface. The pivot axis of the oscillating tube is located at the same level as the underside of the support and aligned centrally with the appliance. The spray is directed upwards. (IEC/EN 60335-1/A1)		N/A
(EN)	For IPX4 appliances, the movement of the tube is limited to two times 90° from the vertical for a period of 5 min. (IEC/EN 60335-1/A1)		P
15.2 (IEC) 15.1.1 (EN)	Tests in accordance with IEC 60529 in appliances other than IPX0, as specified (IEC/EN 60335-2-40)	IPX4 for outdoor unit	P
	Spillage of liquid does not affect the electrical insulation (EN 60335-2-40)		N/A
	Appliances with type X attachment fitted with a flexible cord as described (EN 60335-2-40)		N/A
	Appliances incorporating an appliance inlet tested with or without an connector, whichever is most unfavourable (EN 60335-2-40)		N/A
	Detachable parts removed (EN 60335-2-40)		N/A
	Overfilling test with additional amount of water, over a period of 1 min (l)..... (EN 60335-2-40)		N/A
	The appliance withstands the electric strength test of 16.3 (EN 60335-2-40)		N/A
	No trace of water on insulation that can result in a reduction of clearances and creepage distances below values specified in clause 29 (EN 60335-2-40)		N/A
	Drain pan filled to brim and subjected to continuous overflow and fan(s) switched on (EN 60335-2-40)		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
15.3 (IEC) 15.2 (EN)	Drain pan filled to brim and subjected to continuous overflow and fan(s) switched on (IEC/EN 60335-2-40)		P
15.101 (IEC)	Spillage test as specified (IEC 60335-2-40/A2)	The appliance must be installed on the height of 2,5m or more above floor.	N/A

16	LEAKAGE CURRENT AND ELECTRIC STRENGTH		—
16.1	Leakage current not excessive and electric strength adequate		P
	Protective impedance disconnected from live parts before carrying out the tests		P
16.2	Single-phase appliances: test voltage 1.06 times rated voltage	1,06x240=254,4 V	P
	Three-phase appliances: test voltage 1.06 times rated voltage divided by $\sqrt{3}$		N/A
	Leakage current measurements	(see appended table)	P
16.3	Electric strength tests according to table 7	(see appended table)	P
	No breakdown during the tests		P

17	OVERLOAD PROTECTION OF TRANSFORMERS AND ASSOCIATED CIRCUITS		—
	No excessive temperatures in transformer or associated circuits in event of short-circuits likely to occur in normal use	(see appended table)	N/A
	Appliance supplied with 1.06 or 0.94 times rated voltage and the most unfavourable short-circuit or overload likely to occur in normal use applied		N/A
	Temperature rise of insulation of the conductors of safety extra-low voltage circuits not exceeding the relevant value specified in table 3 by more than 15 K		N/A
	Temperature of the winding not exceeding the value specified in table 8,		N/A
	however limits do not apply to fail-safe transformers complying with sub-clause 15.5 of IEC 61558-1		N/A

18	ENDURANCE		—
	Not applicable (IEC/EN 60335-2-40)		N/A

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
19	ABNORMAL OPERATION		—
19.1	The risk of fire or mechanical damage under abnormal or careless operation obviated (tests 19.2-19.13) (IEC/EN 60335-2-40)		P
	Electronic circuits so designed and applied that a fault will not render the appliance unsafe (electric shock, fire or mechanical hazard, dangerous malfunction) (test 19.11 and 19.12) (IEC/EN 60335-2-40)		P
19.2	Test of appliance with motor rotors, other than motor-compressors, operated for 15 days (360h) or until a protection device opens the circuit (IEC/EN 60335-2-40)		P
	Insulation of motor windings (IEC/EN 60335-2-40).....	(see appended table of 19.2)	P
	Temperature of enclosure does not exceed (°C) (IEC/EN 60335-2-40):	(see appended table of 19.2)	P
	Temperature of the windings does not exceed the values shown in the table ; temperature (°C) (IEC/EN 60335-2-40).....	(see appended table of 19.2)	P
	Electric strength test as specified in 16.3, 72h after the beginning of the test (IEC/EN 60335-2-40)		P
	A 30mA residual current device does not open (IEC/EN 60335-2-40)		P
	At the end, the leakage current between the windings and the enclosure does not exceed 2mA (IEC/EN 60335-2-40)	(see appended table of 19.2)	P
19.3	Motor-compressor complies with IEC 60335-2-34 (IEC/EN 60335-2-40).....	QXAS-D23zX090B	P
	Test of the motor-compressor with the rotor locked as specified in 19.101 of IEC 60335-2-34 (IEC/EN 60335-2-40)		N/A
19.4	Test of three-phase motors operated under the conditions of Cl. 11 with one phase disconnected until steady conditions (IEC/EN 60335-2-40)		P
19.5	Test of appliance with heat transfer medium flow of the outdoor heat exchanger restricted or shut off when reaching steady conditions (IEC/EN 60335-2-40)		P
	Test of appliance with heat transfer flow of the indoor heat exchanger restricted or shut off when reaching steady conditions		P

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	(IEC/EN 60335-2-40)		
	Disconnection of the motor common to both the outdoor and the indoor heat exchangers when reaching steady conditions (IEC/EN 60335-2-40)		N/A
19.6	Test of appliances using water as heat transfer medium (IEC/EN 60335-2-40)		N/A
19.7	The test of air to air appliances at rated voltage or at the upper limit of the rated voltage range. The dry-bulb temperature is 5K below the values specified by the manufacturer (IEC/EN 60335-2-40)		P
	Test with the dry-bulb temperature 10K over the values specified by the manufacturer (IEC/EN 60335-2-40)		P
19.8	Test of appliances with supplementary electric heaters (IEC/EN 60335-2-40)		N/A
19.9	Test at a temperature permitting continuous operation of the motor-compressor and the electric heating elements at the same time (IEC/EN 60335-2-40)		N/A
19.10	Test of the appliance with any defect which may be expected during normal use (IEC/EN 60335-2-40)		P
19.10.1	Test of 19.10 is repeated on class 01 appliances and class 1 appliances incorporating tubular sheathed or embedded heating elements. (IEC/EN 60335-2-40/A1)		N/A
	However, controls are not short-circuited but one end of the element is connected to the sheath of the heating element. (IEC/EN 60335-2-40/A1)		N/A
	The test is repeated with the polarity of the supply to the appliance reversed and with the other end of the element connected to the sheath. (IEC/EN 60335-2-40/A1)		N/A
	The test is not carried out on appliances intended to be permanently connected to fixed wiring and on appliances where all-pole disconnection occurs during the test of 19.10. (IEC/EN 60335-2-40/A1)		N/A
19.10.101	The test of 19.10 is repeated on class 01 appliances and class I appliances incorporating tubular sheathed or embedded heating elements. (IEC 60335-2-40/A2)		N/A
	However, controls are not short-circuited but one end of the element is connected to the sheath of the heating element.		N/A

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	(IEC 60335-2-40/A2)		
	The test is repeated with the polarity of the supply to the appliance reversed and with the other end of the element connected to the sheath. (IEC 60335-2-40/A2)		N/A
	The test is not carried out on appliances intended to be permanently connected to fixed wiring and on appliances where an all-pole disconnection occurs during the test of 19.10. (IEC 60335-2-40/A2)		N/A
19.11	Electronic circuits, compliance checked by evaluation of the fault conditions specified in 19.11.2 for all circuits or parts of circuits, unless they comply with the conditions specified in 19.11.1 (IEC/EN 60335-2-40)		P
	Appliances incorporating a protective electronic circuit are subjected to the tests of 19.11.3 and 19.11.4. (IEC/EN 60335-1/A1)		N/A
	Appliances having a switch with an off position obtained by electronic disconnection, or a switch that can place the appliance in a stand-by mode, are subjected to the tests of 19.11.4. (IEC/EN 60335-1/A1)		N/A
	Windings temperature not exceeding values shown in Table 6 (IEC/EN 60335-2-40)		P
	Appliance shall comply with the conditions of 19.14 (IEC/EN 60335-2-40)		P
	Appliance withstands the test : a conductor becomes open circuited and three conditions are met (IEC/EN 60335-2-40)		N/A
19.11.1	Before applying the fault conditions a) to f) in 19.11.2, it is checked if circuits or parts of circuit meet both of the following conditions (IEC/EN 60335-2-40):		—
	- the electronic circuit is a low-power circuit, that is, the maximum power at low-power points does not exceed 15W according to the tests specified (IEC/EN 60335-2-40)		N/A
	- the protection against electric shock, fire hazard, mechanical hazard or dangerous malfunction in other parts of the appliance does not rely on the correct functioning of the electronic circuit (IEC/EN 60335-2-40)		N/A
19.11.2	Fault conditions applied one at a time, the appliance operated under conditions specified in Cl.11, but supplied at rated voltage, the duration of the tests as specified (IEC/EN 60335-2-40):		—
	a) short circuit of creepage distances and clearances between live parts of different potential, if these distances are less than the		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	values specified in 29.1, unless the relevant part is adequately encapsulated (IEC/EN 60335-2-40)		
	b) open circuit at the terminals of any component (IEC/EN 60335-2-40)		N/A
	c) short circuit if capacitors, unless they comply with IEC 60384-14 (IEC/EN 60335-2-40)		P
	d) short circuit of any two terminals of an electronic component, other than integrated circuits. This fault condition is not applied between the circuits of an optocoupler (IEC/EN 60335-2-40)		P
	e) failure of triacs in the diode mode (IEC/EN 60335-2-40)		N/A
	f) failure of an integrated circuit. (IEC/EN 60335-1/A1)		N/A
	Short-circuit of low-power circuits (IEC/EN 60335-2-40)		N/A
	In each case, the test is ended if a non-self-resetting interruption of the supply occurs within the appliance. (IEC/EN 60335-1/A1)		N/A
	The duration of the tests (IEC/EN 60335-2-40) :		—
	- as specified in 11.7 but only for one operating cycle (in case the fault cannot be recognised by user) (IEC/EN 60335-2-40)		N/A
	- as specified in 19.2, if fault can be recognised by user (IEC/EN 60335-2-40)		P
	- until steady conditions are established (IEC/EN 60335-2-40)		P
	Test ended if interruption of supply occurs within the appliance (IEC/EN 60335-2-40)		P
	Fault condition f) applied to encapsulated or similar components (IEC/EN 60335-2-40)		N/A
	PTC's, NTC's and VDR's resistors not short-circuited if used as specified by manufacturer (IEC/EN 60335-2-40)		P
19.11.4	Appliances having a switch with an off position obtained by electronic disconnection, or a switch that can be placed in the stand-by mode, are subjected to the tests of 19.11.4.1 to 19.11.4.7. The tests are carried out with the appliance supplied at rated voltage, the switch being set in the off position or in the stand-by mode. (IEC/EN 60335-1/A1)		N/A
	Appliances incorporating a protective electronic circuit are subjected to the tests of 19.11.4.1 to		N/A

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	19.11.4.7. The tests are carried out after the protective electronic circuit has operated during the relevant tests of Clause 19 except 19.2, 19.6 and 19.11.3. However, appliances that are operated for 30 s or 5 min during the test of 19.7 are not subjected to the tests for electromagnetic phenomena. (IEC/EN 60335-1/A1)		
	The tests are carried out with surge arresters disconnected, unless they incorporate spark gaps (IEC/EN 60335-1/A1)		N/A
19.11.4.1	The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4 being applicable. Ten discharges having a positive polarity and ten discharges having a negative polarity are applied at each preselected point (IEC/EN 60335-1/A1)		N/A
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, test level 3 being applicable. (IEC/EN 60335-1/A1)		N/A
19.11.4.3	The appliance is subjected to fast transient bursts in accordance with IEC 61000-4-4. Test level 3 s applicable for signal and control lines. Test level 4 is applicable for the power supply lines. The bursts are applied for 2 min with a positive polarity and for 2 min with a negative polarity (IEC/EN 60335-1/A1)		N/A
19.11.4.4	The power supply terminals of the appliance are subjected to voltage surges in accordance with IEC 61000-4-5, five positive impulses and five negative impulses being applied at the selected points. Test level 3 is applicable for the line-to-line coupling mode, a generator having a source impedance of 2 Ω being used. Test level 4 is applicable for the line-to-earth coupling mode, a generator having a source impedance of 12 Ω being used. (IEC/EN 60335-1/A1)		N/A
	Earthed heating elements in class I appliances are disconnected during this test (IEC/EN 60335-1/A1)		N/A
	For appliances having surge arresters incorporating spark gaps, the test is repeated at a level that is 95 % of the flashover voltage (IEC/EN 60335-1/A1)		N/A
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3 being applicable. During the test, all frequencies between 0,15 MHz to 80 MHz are covered. (IEC/EN 60335-1/A1)		N/A
19.11.4.6	The appliance is subjected to voltage dips and		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	interruptions in accordance with IEC 61000-4-11. The durations specified in Table 1 of IEC 61000-4-11 are applied to each test level, the dips and interruptions being applied at zero crossing of the supply voltage (IEC/EN 60335-1/A1)		
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2 being applicable (IEC/EN 60335-1/A1)		N/A
19.12	If the safety of the appliance for any of the fault conditions specified in 19.11.2 depends on the operation of a miniature fuse-link complying with IEC 60127, the test is repeated but with fuse-link replaced by an ammeter (IEC/EN 60335-2-40)		P
	Current $\leq 2,1$ times rated current of fuse-link, circuit not adequately protected (fuse-link short-circuited) (IEC/EN 60335-2-40)		N/A
	Current $\geq 2,75$ times rated current of fuse-link, circuit adequately protected (IEC/EN 60335-2-40)		P
	Current $\geq 2,1$ and $\leq 2,75$ times rated current, fuse-link short-circuited and test carried out during specified time (IEC/EN 60335-2-40)		N/A
19.13	Test of appliances with PTC heating elements (IEC/EN 60335-2-40)		N/A
19.13	The appliance shall not undergo a dangerous malfunction, and there shall be no failure of protective electronic circuits if the appliance is still operable. (IEC/EN 60335-1/A1)	Replaced by EN 60335-2-40	---
	Appliances tested with an electronic switch in the off position, or in the stand-by mode, shall not become operational (IEC/EN 60335-1/A1)	Replaced by EN 60335-2-40	---
	Temperature rise shall not exceed the values shown in Table 9 (IEC/EN 60335-2-40)	(See appended table)	---
	Electric strength test, the test voltage as specified in Table 4 (IEC/EN 60335-2-40)		---
19.14	During the tests of 19.2 to 19.10.1 and 19.11, 19.12 and 19.13 if appropriate, the appliances not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts (IEC 60335-2-40/A2)		P
19.101	All appliances provided with supplementary heaters and with free air discharge are subjected to the specified test in each mode of operation.		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	(IEC 60335-2-40/A2)		
	During the test the temperature shall not exceed 150 °C but an overshoot of 25 °C is permitted during the first hour. (IEC 60335-2-40/A2)		N/A

20	STABILITY AND MECHANICAL HAZARDS		—
20.1	Adequate stability		N/A
	Tilting test through an angle of 10° (appliance placed on an inclined plane/horizontal plane); appliance does not overturn		N/A
	Tilting test repeated on appliances with heating elements, angle of inclination increased to 15°		N/A
	Possible heating test in overturned position; temperature rise does not exceed values shown in table 9		N/A
20.2	Moving parts adequately arranged or enclosed as to provide protection against personal injury		P
	Access to fan impeller of the outdoor unit is prevented by a grill, which is not removable without using a tool. The test finger can not touch the fan impeller with a force not more than 5N.		--
	Protective enclosures, guards and similar parts are non-detachable		P
	Adequate mechanical strength and fixing of protective enclosures		P
	Self-resetting thermal cut-outs and overcurrent protective devices not causing a hazard, by unexpected reclosure		N/A
	Not possible to touch dangerous moving parts with test probe		P

21	MECHANICAL STRENGTH		—
21.1	Appliance has adequate mechanical strength and is constructed as to withstand rough handling		P
	Safety requirements of ISO 5149 applied (IEC 60335-2-40/A2)		P
	Safety requirements specified in Annex EE applied. The pressure test in Annex EE applies to parts other than pressure vessels. (IEC/EN 60335-2-40/A1)		P
	Checked by applying blows to the appliance in		P

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	accordance with test Ehb of IEC 60068-2-75, spring hammer test, impact energy 0.5J (IEC/EN 60335-1/A1)		
	If necessary, supplementary or reinforced insulation subjected to the electric strength test of 16.3		N/A
	If necessary, repetition of groups of three blows on a new sample		N/A
21.2	Accessible parts of solid insulation shall have sufficient strength to prevent penetration by sharp implements. (IEC/EN 60335-1/A1)		P
	Compliance is checked by subjecting the insulation to the following test, unless the thickness of supplementary insulation is at least 1 mm and that of reinforced insulation is at least 2 mm. (IEC/EN 60335-1/A1)		P
	The insulation is raised to the temperature measured during the test of Clause 11. (IEC/EN 60335-1/A1)		N/A
	The surface of the insulation is then scratched by means of a hardened steel pin, the end of which has the form of a cone with an angle of 40°. Its tip is rounded with a radius of 0,25 mm ± 0,02 mm. (IEC/EN 60335-1/A1)		N/A
	The pin is held at an angle of 80°- 85° to the horizontal and loaded so that the force exerted along its axis is 10 N ± 0,5 N. (IEC/EN 60335-1/A1)		N/A
	The scratches are made by drawing the pin along the surface of the insulation at a speed of approximately 20 mm/s. Two parallel scratches are made. (IEC/EN 60335-1/A1)		N/A
	They are spaced sufficiently apart so that they are not affected by each other, their length covering approximately 25 % of the length of the insulation. (IEC/EN 60335-1/A1)		N/A
	Two similar scratches are made at 90° to the first pair without crossing them. (IEC/EN 60335-1/A1)		N/A
	The test fingernail of Figure 7 is then applied to the scratched surface with a force of approximately 10 N. No further damage, such as separation of the material, shall occur. The insulation shall then withstand the electric strength test of 16.3. (IEC/EN 60335-1/A1)		N/A
	The hardened steel pin is then applied perpendicularly with a force of 30 N ± 0,5 N to an unscratched part of the surface. The insulation		N/A

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Clause	Requirement – Test	Result	Verdict
	shall then withstand the electric strength test of 16.3 with the pin still applied and used as one of the electrodes. (IEC/EN 60335-1/A1)		

22	CONSTRUCTION		---
22.1	Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled	IP24 for outdoor unit	P
22.2	Stationary appliance: means to provide all-pole disconnection from the supply provided, the following means being available:		---
	- a supply cord fitted with a plug		P
	- a switch complying with 24.3		N/A
	- a statement in the instruction sheet that a disconnection incorporated in the fixed wiring is to be provided		N/A
	- an appliance inlet		N/A
	Singe-pole switches and single-pole protective devices for the disconnection of heating elements in single-phase permanently connected class I appliances, connected in the phase conductor	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
22.3	Appliance provided with pins: no undue strain on socket-outlets		N/A
	Applied torque not exceeding 0.25 Nm		N/A
	Pull force of 50N to each pin after the appliance has being placed in the heating cabinet; when cooled to room temperature the pins are not displaced by more than 1mm		N/A
	Each pin subjected to a torque of 0.4Nm; the pins are not rotating unless rotating does not impair compliance with the standard		N/A
22.4	Appliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets		N/A
22.5	The appliance is supplied at rated voltage. Any switch is then placed in the off position and the appliance is disconnected from the supply mains at the instant of voltage peak. One second after disconnection, the voltage between the pins of the plug is measured with an instrument that does not appreciably affect the value to be measured. (IEC/EN 60335-1/A1)	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	The voltage shall not exceed 34 V	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
22.6	Electrical insulation not affected by condensing water or leaking liquid		P
	Electrical insulation of Class II appliances not affected in case of a hose rupture or seal leak		N/A
	Electrical insulation not affected by snow penetration to the appliance enclosure (IEC/EN 60335-2-40)		P
22.7	Adequate safeguards against the risk of excessive pressure in appliances provided with steam-producing devices		N/A
22.8	Electrical connections not subject to pulling during cleaning of compartments to which access can be gained without the aid of a tool, and that are likely to be cleaned in normal use		P
22.9	Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances		P
	Adequate insulating properties of oil or grease to which insulation is exposed		P
22.10	Not possible to reset voltage-maintained non-self-resetting thermal cut-outs by the operation of an automatic switching device incorporated within the appliance (IEC/EN 60335-1/A1)		N/A
	Non-self resetting thermal motor protectors have a trip-free action, unless (IEC/EN 60335-1/A1)		N/A
	they are voltage maintained (IEC/EN 60335-1/A1)		N/A
	Location or protection of reset buttons of non-self-resetting controls is so that accidental resetting is unlikely (IEC/EN 60335-1/A1)		N/A
22.11	Reliable fixing of non-detachable parts that provide the necessary degree of protection against electric shock, moisture or contact with moving parts		P
	Obvious locked position of snap-in devices used for fixing such parts		N/A
	No deterioration of the fixing properties of snap-in devices used in parts that are likely to be removed during installation or servicing		N/A
	Tests as described		P
22.12	Handles, knobs etc. fixed in a reliable manner		N/A
	Fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible		N/A

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied		N/A
	Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied		N/A
22.13	Unlikely that handles, when gripped as in normal use, make the operators hand touch parts having a temperature rise exceeding the value specified for handles which are held for short periods only		N/A
22.14	No ragged or sharp edges creating a hazard for the user in normal use, or during user maintenance		P
	No exposed pointed ends of self tapping screws etc., liable to be touched by the user in normal use or during user maintenance		P
22.15	Storage hooks and the like for flexible cords smooth and well rounded		N/A
22.16	Automatic cord reels cause no undue abrasion or damage to the sheath of the flexible cord, no breakage of conductors strands, no undue wear of contacts		N/A
	Cord reel tested with 6000 operations, as specified		N/A
	Electric strength test of 16.3, voltage of 1000 V applied		N/A
22.17	Spacers not removable from the outside by hand or by means of a screwdriver or a spanner		N/A
22.18	Current-carrying parts and other metal parts resistant to corrosion under normal conditions of use		P
22.19	Driving belts not used as electrical insulation		N/A
22.20	Direct contact between live parts and thermal insulation effectively prevented, unless material used is non-corrosive, non-hygroscopic and non-combustible		N/A
	Compliance is checked by inspection and, if necessary, by appropriate test		N/A
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless impregnated		P
22.22	Appliances not containing asbestos		P
22.23	Oils containing polychlorinated biphenyl (PCB) not used		P
22.24	Bare heating elements adequately supported to prevent contact with accessible metal parts in case of rupture or sagging		N/A

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	(IEC/EN 60335-2-40)		
	Bare heating elements only used with metal enclosures (wood or composite enclosures not allowed) (IEC/EN 60335-2-40)		N/A
22.25	Sagging heating conductors cannot come into contact with accessible metal parts		N/A
22.26	The insulation between parts operating at safety extra-low voltage and other live parts complies with the requirements for double or reinforced insulation		P
22.27	Parts connected by protective impedance separated by double or reinforced insulation		N/A
22.28	Metal parts of Class II appliances conductively connected to gas pipes or in contact with water: separated from live parts by double or reinforced insulation		N/A
22.29	Class II appliances permanently connected to fixed wiring so constructed that the required degree of access to live parts is maintained after installation		N/A
22.30	Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed without being seriously damaged, or		P
	so constructed that they cannot be replaced in an incorrect position, and so that if they are omitted, the appliance is rendered inoperable or manifestly incomplete		N/A
22.31	Clearances and creepage distances over supplementary and reinforced insulation not reduced below values specified in clause 29 as a result of wear		P
	Clearances and creepage distances between live parts and accessible parts not reduced below values for supplementary insulation, if wires, screws etc. become loose		P
22.32	Supplementary and reinforced insulation designed or protected against deposition of dirt or dust		P
	Supplementary insulation of natural or synthetic rubber resistant to ageing, or arranged and dimensioned so that creepage distances are not reduced below values specified in 29.2		N/A
	Ceramic material not tightly sintered, similar material or beads alone not used as supplementary or reinforced insulation		N/A
	Oxygen bomb test at 70 °C for 96 h and 16 h at room temperature		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
22.33	Conductive liquids that are or may become accessible in normal use are not in direct contact with live parts		P
	Electrodes not used for heating liquids		N/A
	For class II constructions, conductive liquids that are or may become accessible in normal use, not in direct contact with basic or reinforced insulation		P
	For class II constructions, conductive liquids which are in contact with live parts, not in direct contact with reinforced insulation		N/A
22.34	Shafts of operating knobs, handles, levers etc. not live, unless the shaft is not accessible when the part is removed		N/A
22.35	Handles, levers and knobs, held or actuated in normal use, not becoming live in the event of an insulation fault	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	Such parts being of metal, and their shafts or fixings are likely to become live in the event of an insulation fault, they are either adequately covered by insulation material, or their accessible parts are separated from their shafts or fixings by supplementary insulation	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	This requirement does not apply to handles, levers and knobs on stationary appliances other than those of electrical components, provided they are either reliably connected to an earthing terminal or earthing contact, or separated from live parts by earthed metal		N/A
22.36	Handles continuously held in the hand in normal use are so constructed that when gripped as in normal use, the operators hand is not likely to touch metal parts, unless they are separated from live parts by double or reinforced insulation		N/A
22.37	Capacitors in Class II appliances not connected to accessible metal parts, unless complying with 22.42		N/A
	Metal casings of capacitors in Class II appliances separated from accessible metal parts by supplementary insulation, unless complying with 22.42		N/A
22.38	Capacitors not connected between the contacts of a thermal cut-out		P
22.39	Lamp holders used only for the connection of lamps		N/A
22.40	Motor-operated appliances and combined appliances intended to be moved while in operation, or having accessible moving parts,		N/A

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Clause	Requirement – Test	Result	Verdict
	fitted with a switch to control the motor. The actuating member of the switch being easily visible and accessible		
22.41	No components, other than lamps, containing mercury		P
22.42	Protective impedance consisting of at least two separate components		N/A
	Values specified in 8.1.4 not exceeded if any one of the components are short-circuited or open-circuited		N/A
22.43	Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur		N/A
22.44	Appliances are not allowed to have an enclosure that is shaped and decorated so that the appliance is likely to be treated as a toy by children	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
22.45	When air is used as reinforced insulation, clearances not reduced below the values specified in 29.1.4 due to deformation as a result of an external force applied to the enclosure		P
22.46	Software used in protective electronic circuits is software class B or C (IEC/EN 60335-1/A1):		N/A
22.47	Appliances connected to the water mains withstand the water pressure expected in normal use (IEC/EN 60335-1/A1)		N/A
	No leakage from any part, including any inlet water hose (IEC/EN 60335-1/A1)		N/A
22.48	Appliances connected to the water mains constructed to prevent backsiphonage of non-potable water (IEC/EN 60335-1/A1)		N/A
22.101	Appliances intended to be fixed, securely fixed (IEC/EN 60335-2-40)		P
22.102.1	Double thermal cut-out in appliances with supplementary heating elements for air (the first one shall be a self-resetting and the other a non-self-resetting thermal cut-out) (IEC 60335-2-40/A2)	Replaced by EN 60335-2-40/A2: 2009, See appendix	---
	Thermal cut-outs comply with 24.3 (switches) (IEC/EN 60335-2-40)	Replaced by EN 60335-2-40/A2: 2009, See appendix	---
	Thermal cut-outs operating in Cl. 19 shall be of the non-self-resetting type (IEC/EN 60335-2-40)	Replaced by EN 60335-2-40/A2: 2009, See appendix	---
22.102.2	Appliances provided with supplementary heaters for water incorporate a non-self-resetting thermal cut-out, providing all-pole disconnection	Replaced by EN 60335-2-40/A2: 2009, See appendix	---

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	that operates separately from water thermostats. (IEC 60335-2-40/A2)		
	However, for appliances intended to be connected to fixed wiring, the neutral conductor need not be disconnected. (IEC 60335-2-40/A2)	Replaced by EN 60335-2-40/A2: 2009, See appendix	---
22.102.3	Thermal cut-outs of the capillary type open in the event of leakage of the capillary tube (IEC 60335-2-40/A2)	Replaced by EN 60335-2-40/A2: 2009, See appendix	---
22.103	Non-self-resetting cut-outs independent of other control devices (IEC/EN 60335-2-40)		N/A
22.104	Containers of sanitary hot water heat pumps withstand twice the permissible pressure in closed containers of 0,15MPa in open containers, without leakage or rupture (IEC/EN 60335-2-40)		N/A
22.105	Air or vapour cushion in closed containers not exceeding the 10% (IEC/EN 60335-2-40)		N/A
22.106	Pressure relief devices operating at 0,1MPa over the permissible pressure (IEC/EN 60335-2-40)		N/A
22.107	Water outlet systems of open containers free from obstruction causing over-pressure (IEC/EN 60335-2-40)		N/A
	Vented containers of sanitary hot water heat pumps always open to the atmosphere through appropriate aperture (IEC/EN 60335-2-40)		N/A
22.108	Not vented open containers are subjected to a test in accordance with 22.104 to a vacuum of 33kPa for 15 min (IEC/EN 60335-2-40)		N/A
22.109	Replacement of non-self-resetting thermal cut-outs does not damage other connections (IEC/EN 60335-2-40)		N/A
22.110	Non-self-resetting thermal cut-outs operate without short-circuiting live parts of different potential and without causing contact between live parts and the enclosure (IEC/EN 60335-2-40)		N/A
	Test repeated five times without blowing a 3 A fuse which connects the appliance to earth (IEC/EN 60335-2-40)		N/A
	Electric strength test as specified in 16.3 for supplementary heating elements (IEC/EN 60335-2-40)		N/A
22.111	Manual resetting of thermostats not necessary after power supply interruption (IEC/EN 60335-2-40)		N/A

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
22.112	The construction of the refrigerating system comply with the requirements of Section 3 of ISO 5149. (IEC/EN 60335-2-40/A1)		P
22.113	When a flammable refrigerant is used, refrigerant tubing is protected or enclosed to avoid mechanical damage. (IEC/EN 60335-2-40/A1)		N/A
	The tubing is protected to the extent that it will not be handled or used for carrying during moving of the product (IEC/EN 60335-2-40/A1)		N/A
	Tubing located within the confines of the cabinet is considered to be protected from mechanical damage. (IEC/EN 60335-2-40/A1)		N/A
22.114	When a flammable refrigerant is used, low temperature solder alloys, such as lead/tin alloys, are not acceptable for pipe connections. (IEC/EN 60335-2-40/A1)		N/A
22.115	The total refrigerant mass (M) of all refrigerating systems within the appliance employing flammable refrigerants, not exceed m_3 as defined in Annex GG. (IEC/EN 60335-2-40/A1)		N/A
22.116	Appliances using flammable refrigerants constructed so that any leaked refrigerant will not flow or stagnate so as to cause a fire or explosion hazard in areas within the appliance where electrical components, which could be a source of ignition and which could function under normal conditions or in the event of a leak, are fitted. (IEC/EN 60335-2-40/A1)		N/A
	Separate components, such as thermostats, which are charged with less than 0,5 g of a flammable gas are not considered to cause a fire or explosion hazard in the event of leakage of the gas within the component itself. (IEC/EN 60335-2-40/A1)		N/A
	All electrical components that could be a source of ignition and which could function under normal conditions or in the event of a leak, comply with one of the following: (IEC/EN 60335-2-40/A1)		—
	– IEC 60079-15:2001, Clauses 9 to 26, for group IIA gases or the refrigerant used or an applicable standard that makes electrical components suitable for use in Zone 2, 1 or 0 as defined in IEC 60079-14. (IEC/EN 60335-2-40/A1)		N/A
	– Not be located in an area where a potentially flammable gas mixture will accumulate as demonstrated by the test of Annex FF		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	(IEC/EN 60335-2-40/A1)		
	– Be located in an enclosure. The enclosure containing the electrical components comply with IEC 60079-15:2001 for enclosures suitable for use with group IIA gases or the refrigerant used. (IEC/EN 60335-2-40/A1)		N/A
22.117	Temperatures on surfaces that may be exposed to leakage of flammable refrigerants shall not exceed the auto-ignition temperature of the refrigerant reduced by 100 K; some typical values are given in Annex BB. (IEC/EN 60335-2-40/A1)		N/A
22.118	When a flammable refrigerant is used, all appliances charged with refrigerant at the manufacturing location or charged on site as recommended by the manufacturer. (IEC/EN 60335-2-40/A1)		N/A
	A part of an appliance that is charged on site, which requires brazing or welding in the installation shall not be shipped with a flammable refrigerant charge. Joints made in the installation between parts of the refrigerating system, with at least one part charged, made in accordance with the following. (IEC/EN 60335-2-40/A1)		N/A
	– A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the refrigerating system parts. A vacuum valve shall be provided to evacuate the interconnecting pipe and/or any uncharged refrigerating system part. (IEC/EN 60335-2-40/A1)		N/A
	– Reusable mechanical connectors and flared joints are not allowed indoors. (IEC/EN 60335-2-40/A1)		N/A
	– Refrigerant tubing shall be protected or enclosed to avoid damage. (IEC/EN 60335-2-40/A1)		N/A
	Flexible refrigerant connectors (such as connecting lines between the indoor and outdoor unit) that may be displaced during normal operations shall be protected against mechanical damage. (IEC/EN 60335-2-40/A1)		N/A

23	INTERNAL WIRING		—
23.1	Wireways smooth and free from sharp edges		P
	Wires protected against contact with burrs,		P

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	cooling fins etc.		
	Wire holes in metal well rounded or provided with bushings		P
	Wiring effectively prevented from coming into contact with moving parts		P
23.2	Beads etc. on live wires cannot change their position, and are not resting on sharp edges or corners		N/A
	Beads inside flexible metal conduits contained within an insulating sleeve		N/A
23.3	Electrical connections and internal conductors movable relatively to each other not exposed to undue stress		N/A
	Flexible metallic tubes not causing damage to insulation of conductors		N/A
	Open-coil springs not used		N/A
	Adequate insulating lining provided inside a coiled spring, the turns of which touch one another		N/A
	No damage after 10 000 flexings for conductors flexed during normal use or 100 flexings for conductors flexed during user maintenance		N/A
	Electric strength test, 1000 V between live parts and accessible metal parts		N/A
23.4	Bare internal wiring sufficiently rigid and fixed		N/A
23.5	The insulation of internal wiring withstanding the electrical stress likely to occur in normal use		P
	No breakdown when a voltage of 2000 V is applied for 15 min between the conductor and metal foil wrapped around the insulation		P
23.6	Sleeving used as supplementary insulation on internal wiring retained in position by positive means		P
23.7	The colour combination green/yellow used only for earthing conductors		P
23.8	Aluminium wires not used for internal wiring		P
23.9	No lead-tin soldering of stranded conductors where they are subject to contact pressure, unless		P
	clamping means so constructed that there is no risk of bad contact due to cold flow of the solder		N/A
23.10	The insulation and sheath of internal wiring, incorporated in external hoses for the connection of an appliance to the water mains, at least equivalent to that of light polyvinyl chloride		N/A

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	sheathed flexible cord (60227 IEC 52) (IEC/EN 60335-1/A1)		

24	COMPONENTS		---
24.1	Components comply with safety requirements in relevant IEC standards	Replaced by IEC/EN 60335-1/A14: 2010, See appendix	---
	List of components	Replaced by IEC/EN 60335-1/A14: 2010, See appendix	---
	Components not tested and found to comply with relevant IEC standard for the number of cycles specified are tested in accordance with 24.1.1 to 24.1.6	Replaced by IEC/EN 60335-1/A14: 2010, See appendix	---
	Components not tested and found to comply with relevant IEC standard, components not marked or not used in accordance with its marking, tested under the conditions occurring in the appliance	Replaced by IEC/EN 60335-1/A14: 2010, See appendix	---
	Motor-compressors not tested according to IEC 60335-2-34 (not necessary to meet all requirements of IEC 60335-2-34) (IEC/EN 60335-2-40)		N/A
24.1.1	Capacitors likely to be permanently subjected to the supply voltage and used for radio interference suppression or for voltage dividing, complying with IEC 60384-14, or		P
	tested according to annex F		N/A
24.1.2	Safety isolating transformers complying with IEC 61558-2-6, or		N/A
	tested according to annex G		N/A
24.1.3	Switches complying with IEC 61058-1, the number of cycles of operation being at least 10 000, or		N/A
	tested according to annex H		N/A
	If the switch operates a relay or contactor, the complete switching system is subjected to the test		N/A
24.1.4	Automatic controls complying with IEC 60730-1 with relevant part 2. The number of cycles of operation being:		---
	- thermostats: 10 000		N/A
	- temperature limiters: 1 000		N/A
	- self-resetting thermal cut-outs (IEC/EN 60335-2-40): 3 000		N/A
	- voltage maintained non-self-resetting thermal cut-outs: 1000		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	- other non-self-resetting thermal cut-outs: (IEC/EN 60335-2-40): 300		N/A
	- timers: 3 000		N/A
	- energy regulators :10 000		N/A
	- thermostats which control motor-compressor (IEC/EN 60335-2-40): 100 000		N/A
	- motor-compressor starting relays (IEC/EN 60335-2-40): 100 000		N/A
	- automatic thermal motor-protectors for hermetic and semi-hermetic type motor-compressors (IEC/EN 60335-2-40): min 2 000		P
	- manual reset thermal motor-protectors for hermetic and semi-hermetic type motor- compressors (IEC/EN 60335-2-40): 50		N/A
	- other automatic thermal motor protectors (IEC/EN 60335-2-40): 2 000		P
	- other manual reset thermal motor protectors (IEC/EN 60335-2-40): 30		N/A
	Thermal motor protectors are tested in combination with their motor under the conditions specified in Annex D (IEC/EN 60335-1/A1)		N/A
	For water valves containing live parts and that are incorporated in external hoses for connection of an appliance to the water mains, the degree of protection declared for subclause 6.5.2 of IEC 60730-2-8 is IPX7 (IEC/EN 60335-1/A1)		N/A
24.1.5	Appliance couplers complying with IEC 60320-1		N/A
	However, appliances classified higher than IPX0, the appliance couplers complying with IEC 60320- 2-3 (IEC/EN 60335-1/A1)		N/A
	Interconnection couplers complying with IEC 60320-2-2		N/A
24.1.6	Small lamp holders similar to E10 lampholders complying with IEC 60238, the requirements for E10 lampholders being applicable		N/A
24.2	No switches or automatic controls in flexible cords		P
	No devices causing the protective device in the fixed wiring to operate in the event of a fault in the appliance		P
	No thermal cut-outs that can be reset by soldering		P
24.3	Switches intended for all-pole disconnection of stationary appliances are directly connected to the		N/A

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	supply terminals and having a contact separation in all poles, providing full disconnection under overvoltage category III conditions		
24.4	Plugs and socket-outlets for extra-low voltage circuits and heating elements, not interchangeable with plugs and socket-outlets listed in IEC 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1		N/A
24.5	Capacitors in auxiliary windings of motors marked with their rated voltage and capacitance and used accordingly		P
	Voltage across capacitors in series with a motor winding does not exceed 1,1 times rated voltage, when the appliance is supplied at 1,1 times rated voltage under minimum load	Measure voltage: Indoor fan motor capacitor: 295 V (max.) Limited: 495V	P
24.6	Working voltage of motors connected to the supply mains and having basic insulation that is inadequate for the rated voltage of the appliance, not exceeding 42V.		N/A
	In addition, the motors are complying with the requirements of Annex I		N/A
24.7	Hose-sets for connection of appliances to the water mains, complying with IEC 61770 and supplied with the appliance (IEC/EN 60335-1/A1)		N/A
24.101	Replaceable parts of thermal control devices identified by marking (IEC/EN 60335-2-40)		N/A

25	SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS		—
25.1	Appliance not intended for permanent connection to fixed wiring, means for connection to the supply:		—
	- pins for insertion into socket-outlets		N/A
	- supply cord fitted with a plug may be provided, if (IEC/EN 60335-2-40):		N/A
	• the appliance is only for indoor use		N/A
	• it is marked with a rating of 25 A or less		N/A
	• it complies with the code requirements of the country where it will be used		N/A
	Appliance inlet not allowed (IEC/EN 60335-2-40)		N/A
25.2	Appliance not provided with more than one means of connection to the supply mains		P

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	Stationary appliance for multiple supply may be provided with more than one means of connection, provided electric strength test of 1250 V for 1 min between each means of connection causes no breakdown		N/A
25.3	Connection of supply conductors for appliance intended to be permanently connected to fixed wiring possible after the appliance has been fixed to its support		P
	Appliance provided with a set of terminals for the connection of cables or fixed wiring, cross-sectional areas specified in 26.6		N/A
	Appliance provided with a set of terminals allowing the connection of a flexible cord		N/A
	Appliance provided with a set of supply leads accommodated in a suitable compartment		P
	Appliance provided with a set of terminals and cable entries, conduit entries, knock-outs or glands, allowing connection of appropriate type of cable or conduit		N/A
25.4	Cable and conduit entries, rated current of appliance not exceeding 16 A, dimensions according to table 10		N/A
	Introduction of conduit or cable does not reduce clearances or creepage distances below values specified in 29		N/A
25.5	Method for assemble supply cord with the appliance:		---
	- type X attachment		N/A
	- type Y attachment		P
	- type Z attachment, if allowed in part 2		N/A
	Type X attachment, other than those with a specially prepared cord, not used for flat twin tinsel cords		N/A
25.6	Plugs fitted with only one flexible cord		N/A
25.7	Supply cord not lighter than:		---
	- braided cord (60245 IEC 51)	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	- ordinary tough rubber sheathed cord (60245 IEC 53)	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	- ordinary polychloroprene sheathed flexible cord (60245 IEC 57) (IEC/EN 60335-1/A1)	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	- flat twin tinsel cord (60227 IEC 41)	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	- light polyvinyl chloride sheathed cord (60227 IEC 52), appliance not exceeding 3 kg	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	- ordinary polyvinyl chloride sheathed cord (60227 IEC 53), appliance exceeding 3 kg	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	Temperature rise of external metal parts exceeding 75 K, PVC cord not used, unless	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	appliance so constructed that the supply cord is not likely to touch external metal parts in normal use, or	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	the supply cord is appropriate for higher temperatures, type Y or type Z attachment used	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	Supply cords for outdoor use not lighter than polychloroprene sheathed flexible cord (60245 IEC 57) (IEC/EN 60335-2-40)	H07RN-F for interconnection cord	P
25.8	Nominal cross-sectional area of supply cords according to table 11; rated current (A); cross-sectional area (mm ²)		N/A
25.9	Supply cord not in contact with sharp points or edges		P
25.10	Green/yellow core for earthing purposes in Class I appliance		P
25.11	Conductors of supply cords not consolidated by lead-tin soldering where they are subject to contact pressure, unless		P
	clamping means so constructed that there is no risk of bad contacts due to cold flow of the solder		N/A
25.12	Moulding the cord to part of the enclosure does not damage the insulation of the supply cord		N/A
25.13	Inlet opening so shaped as to prevent damage to the supply cord		P
	Unless the enclosure at the inlet opening is of insulation material, a non-detachable lining or bushing complying with 29.3 for supplementary insulation provided		P
	If unsheathed supply cord, a similar additional bushing or lining is required, unless		N/A
	the appliance is class 0		N/A
25.14	Supply cords adequately protected against excessive flexing		N/A
	Flexing test:		---
	- applied force (N).....		N/A
	- number of flexings.....		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	The test does not result in:		—
	- short circuit between the conductors		N/A
	- breakage of more than 10% of the strands of any conductor		N/A
	- separation of the conductor from its terminal		N/A
	- loosening of any cord guard		N/A
	- damage, within the meaning of the standard, to the cord or the cord guard		N/A
	- broken strands piercing the insulation and becoming accessible		N/A
25.15	Conductors of the supply cord relieved from strain, twisting and abrasion by use of cord anchorage		P
	The cord cannot be pushed into the appliance to such an extent that the cord or internal parts of the appliance can be damaged		P
	Pull and torque test of supply cord, values shown in table 12: pull (N); torque (not on automatic cord reel) (Nm)	100N; 0,35Nm	P
	Max. 2 mm displacement of cord		P
	Creepage distances and clearances not reduced below values specified in 29.1		N/A
25.16	Cord anchorages for type X attachments constructed and located so that:		—
	- replacement of the cord is easily possible		N/A
	- it is clear how the relief from strain and the prevention of twisting are obtained		N/A
	- they are suitable for different types of cord		N/A
	- cord cannot touch the clamping screws of cord anchorage if these screws are accessible, unless separated from accessible metal parts by supplementary insulation		N/A
	- the cord is not clamped by a metal screw which bears directly on the cord		N/A
	- at least one part of the cord anchorage securely fixed to the appliance, unless part of a specially prepared cord		N/A
	- screws which have to be operated when replacing the cord do not fix any other component, if applicable		N/A
	- if labyrinths can be bypassed the test of 25.15 is nevertheless withstood		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	- for Class 0, 0I and I appliances: they are of insulating material or are provided with an insulating lining, unless a failure of the insulation of the cord does not make accessible metal parts live		N/A
	- for Class II appliances: they are of insulating material, or if of metal, they are insulated from accessible metal parts by supplementary insulation		N/A
	Conductors not moved more than 1 mm in terminals		N/A
25.17	Adequate cord anchorages for type Y and Z attachment		P
25.18	Cord anchorages only accessible with the aid of a tool, or		P
	so constructed that the cord can only be fitted with the aid of a tool		N/A
25.19	Type X attachment, glands not used as cord anchorage in portable appliances		N/A
	Tying the cord into a knot or tying the cord with string not used		N/A
25.20	Conductors of the supply cord for type Y and Z attachment adequately additionally insulated		P
25.21	Space for supply cord for type X attachment or for connection of fixed wiring constructed to permit checking of conductors with respect to correct positioning and connection before fitting any cover, no risk of damage to the conductors when fitting the cover, no contact with accessible metal parts if a conductor becomes loose, etc.		P
	For portable appliances, the uninsulated end of a conductor prevented from any contact with accessible metal parts, unless the end of the cord is such that the conductors are unlikely to slip free		N/A
25.22	Appliance inlet:		—
	- live parts not accessible during insertion or removal		N/A
	- connector can be inserted without difficulty		N/A
	- the appliance is not supported by the connector		N/A
	- is not for cold conditions if temp. rise of external metal parts exceeds 75 K, unless the supply cord is not likely to touch such metal parts		N/A
25.23	Interconnection cords comply with the requirements for the supply cord, except as		P

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	specified		
	If necessary, electric strength test of 16.3		N/A
25.24	Interconnection cords not detachable without the aid of a tool if compliance with the standard is impaired when they are disconnected		P
25.25	Dimensions of pins compatible with the dimensions of the relevant socket-outlet. Dimensions of pins and engagement face in accordance with the relevant plug in IEC 60083		N/A

26	TERMINALS FOR EXTERNAL CONDUCTORS		—
26.1	Appliances provided with terminals or equally effective devices for connection of external conductors	Outdoor unit	P
	Terminals only accessible after removal of a non-detachable cover		P
	However, earthing terminals may be accessible if a tool is required to make the connections and means are provided to clamp the wire independently from its connection (IEC/EN 60335-1/A1)		N/A
26.2	Appliances with type X attachment and appliances for connection to fixed wiring provided with terminals in which connections are made by means of screws, nuts or similar devices, unless the connections are soldered		P
	Screws and nuts serve only to clamp supply conductors, except		P
	internal conductors, if so arranged that they are unlikely to be displaced when fitting the supply conductors		N/A
	If soldered connections used, the conductor so positioned or fixed that reliance is not placed on soldering alone		N/A
	Soldering alone used, barriers provided, clearances and creepage distances satisfactory if the conductor becomes free at the soldered joint		N/A
26.3	Terminals for type X attachment and for connection to fixed wiring so constructed that the conductor is clamped between metal surfaces with sufficient contact pressure and without damaging the conductor		N/A
	Terminals for type X attachment and those for connection to fixed wiring so fixed that when tightening or loosening the clamping means:		—

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	- the terminal does not loosen		P
	- internal wiring is not subjected to stress		P
	- clearances and creepage distances are not reduced below the values in 29		P
	Compliance checked by inspection and by the test of subclause 8.6 of IEC 60999-1, the torque applied being equal to two-thirds of the torque specified. Nominal diameter of thread (mm); screw category; torque (Nm)	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
26.4	Terminals for type X attachment, except those with a specially prepared cord, and those for connection to fixed wiring, no special preparation of conductors required, and so constructed or placed that conductors prevented from slipping out		P
26.5	Terminals for type X attachment so located or shielded that if a wire of a stranded conductor escapes, no risk of accidental connection to other parts that result in a hazard		N/A
	Stranded conductor test, 8 mm insulation removed		N/A
	No contact between live parts and accessible metal parts and, for class II constructions, between live parts and metal parts separated from accessible metal parts by supplementary insulation only		N/A
26.6	Terminals for type X attachment and for connection to fixed wiring suitable for connection of conductors with required cross-sectional area according to table 13; rated current (A); nominal cross-sectional area (mm ²)	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	Terminals only suitable for a specially prepared cord		N/A
26.7	Terminals for type X attachment accessible after removal of a cover or part of the enclosure		N/A
26.8	Terminals for the connection to fixed wiring, including the earthing terminal, located close to each other		P
26.9	Terminals of the pillar type constructed and located as specified		N/A
26.10	Terminals with screw clamping and screwless terminals not used for flat twin tinsel cords, unless conductors ends fitted with a device suitable for screw terminals		N/A
	Pull test of 5 N to the connection		N/A
26.11	For type Y and Z attachment: soldered, welded,		P

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	crimped and similar connections may be used		
	For Class II appliances: the conductor so positioned or fixed that reliance is not placed on soldering, welding or crimping alone		N/A
	For Class II appliances: soldering, welding or crimping alone used, barriers provided, clearances and creepage distances satisfactory if the conductor becomes free		N/A

27	PROVISION FOR EARTHING		—
27.1	Accessible metal parts of Class 0I and I appliances, permanently and reliably connected to an earthing terminal or contact of the appliance inlet		P
	Earthing terminals not connected to neutral terminal		P
	Class 0, II and III appliance have no provision for earthing		N/A
	Safety extra-low voltage circuits not earthed, unless protective extra-low voltage circuits		N/A
27.2	Clamping means adequately secured against accidental loosening		P
	Terminals used for the connection of external equipotential bonding conductors allow connection of conductors of 2.5 to 6 mm ² , and		N/A
	do not provide earthing continuity between different parts of the appliance		N/A
	Conductors cannot be loosened without the aid of a tool		N/A
27.3	For detachable parts that are plugged into another part of the appliance, and having an earth connection, the earth connection made before and separated after current-carrying connections when removing the part (IEC/EN 60335-1/A1)		N/A
	For appliances with supply cord, current-carrying conductors become taut before earthing conductor, if the cord slips out of the cord anchorage		N/A
27.4	No risk of corrosion resulting from contact between metal of earthing terminal and other metal		P
	Adequate resistance to corrosion of coated or uncoated parts providing earthing continuity, other		P

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	than parts of a metal frame or enclosure		
	Parts of steel providing earthing continuity provided at the essential areas with an electroplated coating, thickness at least 5 µm		P
	Adequate protection against rusting of parts of coated or uncoated steel, only intended to provide or transmit contact pressure		P
	In case of aluminium alloys precautions taken to avoid risk of corrosion		N/A
27.5	Low resistance of connection between earthing terminal and earthed metal parts		P
	This requirement does not apply to connections providing earthing continuity in the protective extra-low voltage circuit, provided that clearances of basic insulation are based on the rated voltage of the appliance		N/A
	Resistance not exceeding 0,1 Ω at the specified low-resistance test	0,05Ω	P
27.6	The printed conductors of printed circuit boards not used to provide earthing continuity in hand held appliances	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	They may be used in other appliances if:		---
	- at least two tracks are used with independent soldering points and the appliance complies with requirements of 27.5 for each circuit	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	- the material of the printed circuit board complies with IEC 60249-2-4 or IEC 60249-2-5	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---

28	SCREWS AND CONNECTIONS		---
28.1	Fixings, electrical connections and connections providing earthing continuity withstand mechanical stresses		P
	Screws not of soft metal liable to creep, such as zinc or aluminium		P
	Diameter of screws of insulating material min. 3 mm		N/A
	Screws of insulating material not used for any electrical connection or connections providing earthing continuity		N/A
	Screws used for electrical connections or connections providing earthing continuity screw into metal		P
	Screws not of insulating material if their replacement by a metal screw can impair	No screws are insulation material.	P

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	supplementary or reinforced insulation		
	Type X attachment, screws to be removed for replacement of supply cord or for user maintenance, not of insulating material if their replacement by a metal screw can impair basic insulation		N/A
	For screws and nuts; test as specified	(see appended table)	P
28.2	Electrical connections and connections providing earthing continuity constructed so that contact pressure not transmitted through insulating material liable to shrink or distort, unless shrinkage or distortion compensated		P
	This requirement does not apply to electrical connections in circuits carrying a current not exceeding 0.5A		N/A
28.3	Space-threaded (sheet metal) screws only used for electrical connections if they clamp the parts together		N/A
	Thread-cutting (self-tapping) screws only used for electrical connections if they generate a full form standard machine screw thread	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	Such screws not used if they are likely to be operated by the user or installer unless the thread is formed by a swaging action	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	Thread-cutting and space-threaded screws may be used in connections providing earthing continuity, provided unnecessary to disturb the connection and at least two screws are used for each connection	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
28.4	Screws and nuts that make mechanical connection secured against loosening if they also make electrical connections or connections providing earthing continuity		P
	Rivets for electrical connections or connections providing earthing continuity secured against loosening if subjected to torsion		N/A

29	CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION		---
	Clearances, creepage distances and solid insulation withstand electrical stress		P
	For coatings used on printed circuits boards to protect the microenvironment (Type A) or to provide basic insulation (Type B), annex J applies (IEC/EN 60335-1/A1)	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	The microenvironment is pollution degree 1 under	Replaced by IEC/EN 60335-	---

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	Type A coating (IEC/EN 60335-1/A1)	1/A2:2006, See appendix	
	No creepage distance or clearance requirements under Type B coating (IEC/EN 60335-1/A1)	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	For motor-compressor complies with IEC 60335-2-34, parts related not checked (IEC/EN 60335-2-40)	QXAS-D23zX090B	P
	For motor-compressor not complying with IEC 60335-2-34, additions and modifications as specified (IEC/EN 60335-2-40)		N/A
29.1	Clearances not less than the values specified in Table 16, taking into account the rated impulse voltage for the overvoltage categories of Table 15, unless (IEC/EN 60335-1/A1)		P
	for basic insulation and functional insulation, they comply with the impulse voltage test of clause 14 (IEC/EN 60335-1/A1)		N/A
	However, if construction is affected by wear, distortion, movement of the parts or during assembly, the clearances for rated impulse voltages of 1500V and above are increased by 0.5mm and the impulse voltage test is not applicable (IEC/EN 60335-1/A1)		N/A
	Impulse voltage test not applicable: (IEC/EN 60335-1/A1)		---
	- when the microenvironment is pollution degree 3 (IEC/EN 60335-1/A1)		N/A
	- for basic insulation of class 0 and class 0I appliances (IEC/EN 60335-1/A1)		N/A
	Appliances are in overvoltage category II		P
	Compliance is checked by inspection and measurements as specified		P
29.1.1	Clearances of basic insulation withstand the overvoltages, taking into account the rated impulse voltage	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	Clearance at the terminals of tubular sheathed heating elements may be reduced to 1mm if the microenvironment is pollution degree 1		N/A
	Lacquered conductors of windings considered to be bare conductors (IEC/EN 60335-1/A1)		P
29.1.2	Clearances of supplementary insulation not less than those specified for basic insulation in table 16		P
29.1.3	Clearances of reinforced insulation not less than those specified for basic insulation in table 16, but using the next higher step for rated impulse		P

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	voltage		
29.1.4	For functional insulation, the values of table 16 are applicable, unless		P
	the appliance complies with clause 19 with the functional insulation short-circuited		N/A
	Lacquered conductors of windings considered to be bare conductors (IEC/EN 60335-1/A1)		P
	However, clearances at crossover points are not measured		P
	Clearance between surfaces of PTC heating elements may be reduced to 1mm		N/A
	Lacquered conductors of windings assumed to be bare conductors, but the clearances specified in table 16 are reduced by 0.5mm for rated impulse voltages of at least 1500V		N/A
29.1.5	Appliances having higher working voltage than rated voltage, the voltage used for determining clearances from table 16 is the sum of the rated impulse voltage and the difference between the peak value of the working voltage and the peak value of the rated voltage		N/A
	If the secondary winding of a step-down transformer is earthed, or if there is an earthed screen between the primary and secondary windings, clearances of basic insulation on the secondary side not less than those specified in table 16, but using the next lower step for rated impulse voltage		N/A
	Circuits supplied with a voltage lower than rated voltage, clearances of functional insulation based on the working voltage used as the rated voltage in table 15		P
29.2	Creepage distances not less than those appropriate for the working voltage, taking into account the material group and the pollution degree		P
	Pollution degree 2 applies, unless		P
	precautions taken to protect the insulation; pollution degree 1		N/A
	insulation subjected to conductive pollution; pollution degree 3		N/A
	Compliance is checked by inspection and measurements as specified		P
	Insulation located in airflow, pollution degree 3 unless (IEC/EN 60335-2-40)		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	Insulation enclosed or located so that unlikely to be exposed to pollution due to normal use (IEC/EN 60335-2-40)		N/A
29.2.1	Creepage distances of basic insulation not less than specified in table 17		P
	For pollution degree 1, creepage distance not less than the minimum specified for the clearance in table 16, if the clearance has been checked according to the test of clause 14		N/A
29.2.2	Creepage distances of supplementary insulation at least as specified for basic insulation in table 17		P
29.2.3	Creepage distances of reinforced insulation at least double as specified for basic insulation in table 17		P
29.2.4	Creepage distances of functional insulation not less than specified in table 18		P
	Creepage distances may be reduced if the appliance complies with clause 19 with the functional insulation short-circuited		N/A
29.3	Supplementary and reinforced insulation having adequate thickness, or a sufficient number of layers, to withstand the electrical stresses (IEC/EN 60335-1/A1)		P
	Compliance checked by:		—
	- measurement, in accordance with 29.3.1, or		P
	- an electric strength test in accordance with 29.3.2, or		N/A
	- an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3		N/A
29.3.1	Supplementary insulation having a thickness of at least 1mm (IEC/EN 60335-1/A1)		P
	Reinforced insulation having a thickness of at least 2mm (IEC/EN 60335-1/A1)		P
29.3.2	Each layer of material withstand the electric strength test of 16.3 for supplementary insulation (IEC/EN 60335-1/A1)		N/A
	Supplementary insulation consisting of at least 2 layers (IEC/EN 60335-1/A1)		N/A
	Reinforced insulation consisting of at least 3 layers		N/A
29.3.3	The insulation is subjected to the dry heat test Bb of IEC 60068-2-2, followed by (IEC/EN 60335-1/A1)		N/A

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	the electric strength of 16.3 (IEC/EN 60335-1/A1)		N/A
	If the temperature rise during the tests of Clause 19 does not exceed the value specified in Table 3, the test of IEC 60068-2-2 is not carried out (IEC/EN 60335-1/A1)		N/A

30	RESISTANCE TO HEAT AND FIRE		---
30.1	External parts of non-metallic material,		P
	parts supporting live parts, and		P
	thermoplastic material providing supplementary or reinforced insulation,		P
	sufficiently resistant to heat		P
	Ball-pressure test according to IEC 60695-10-2		P
	External parts: at 40 °C plus the maximum temperature rise determined during the test of clause 11, or at 75 °C, whichever is the higher; temperature (°C).....	75 °C for enclosure	P
	Parts supporting live parts: at 40°C plus the maximum temperature rise determined during the test of clause 11, or at 125°C, whichever is the higher; temperature (°C)	125°C for PCB, terminal block.	P
	Parts of thermoplastic material providing supplementary or reinforced insulation, 25°C plus the maximum temperature rise determined during clause 19, if higher; temperature (°C)	(See appended table)	N/A
30.2	Relevant parts of non-metallic material adequately resistant to ignition and spread of fire	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
30.2.1	Glow-wire test of IEC 60695-2-11 at 550 °C, unless	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	the material is classified at least HB40 according to IEC 60695-11-10	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	Parts for which the glow-wire test cannot be carried out meet the requirements in ISO9772 for category HBF material (IEC/EN 60335-1/A1)	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
30.2.2	Not applicable (IEC/EN 60335-2-40)		N/A
30.2.3	Appliances operated while unattended, tested as specified in 30.2.3.1 and 30.2.3.2	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	Test not applicable to conditions as specified	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
30.2.3.1	Parts of insulating material supporting connections carrying a current exceeding 0.2A during normal operation, and	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	parts of insulating material within a distance of 3mm,	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	having a glow-wire flammability index of at least 850°C according to IEC 60695-2-12	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
30.2.3.2	Parts of insulating material supporting current-carrying connections, and	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	parts of insulating material within a distance of 3mm,	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	subjected to glow-wire test of IEC 60695-2-11	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	Test not carried out on material having a glow-wire ignition temperature according to IEC 60695-2-13 as specified	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	Glow-wire test of IEC 60695-2-11, the temperature being:		---
	-750°C, for connections carrying a current exceeding 0,2A during normal operation	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	-650°C, for other connections	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	Parts that during the test produce a flame persisting longer than 2 s, tested as specified	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	If a flame persists longer than 2 s during the test, parts above the connection, as specified, subjected to the needle-flame test of annex E, unless	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	the material is classified as V-0 or V-1 according to IEC 60695-11-10	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
30.2.4	Base material of printed circuit boards subjected to needle-flame test of annex E	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	Test not applicable to conditions as specified	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---

31	RESISTANCE TO RUSTING		---
	Relevant ferrous parts adequately protected against rusting		P
	Salt mist test of IEC 60068-2-52, severity 2 (IEC/EN 60335-2-40)		P
	Before test, coatings are scratched by means of a harden steel pin as specified (IEC/EN 60335-2-40)		P

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Clause	Requirement – Test	Result	Verdict
	Five scratches made at least 5mm apart and at least 5mm from the edges (IEC/EN 60335-2-40)		P
	Appliance not deteriorated to such an extent that compliance with cl. 8 and cl. 27 is impaired (IEC/EN 60335-2-40)		P
	Coating not be broken and not loosened from the metal surface (IEC/EN 60335-2-40)		P

32	RADIATION, TOXICITY AND SIMILAR HAZARDS		—
	Appliance does not emit harmful radiation	Replaced by IEC/EN 60335-1/A2:2006, See appendix	--
	Appliance does not present a toxic or similar hazard	Replaced by IEC/EN 60335-1/A2:2006, See appendix	--

A	ANNEX A (INFORMATIVE) ROUTINE TESTS		—
	Description of routine tests to be carried out by the manufacturer		Not checked

B	ANNEX B (NORMATIVE) APPLIANCES POWERED BY RECHARGEABLE BATTERIES		—
	The following modifications to this standard are applicable for appliances powered by batteries that are recharged in the appliance		N/A
	This annex does not apply to battery chargers		N/A
3.1.9	Appliance operated under the following conditions:		—
	-the appliance, supplied by its fully charged battery, operated as specified in relevant part 2		N/A
	-the battery is charged, the battery being initially discharged to such an extent that the appliance cannot operate		N/A
	-if possible, the appliance is supplied from the supply mains through its battery charger, the battery being initially discharged to such an extent that the appliance cannot operate. The appliance is operated as specified in relevant part 2		N/A
	If the appliance incorporates inductive coupling between two parts that are detachable from each other, the appliance is supplied from the supply mains with the detachable part removed		N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
3.6.2	Part to be removed in order to discard the battery is not considered to be detachable		N/A
5.101	Appliances supplied from the supply mains tested as specified for motor-operated appliances		N/A
7.1	Battery compartment for batteries intended to be replaced by the user, marked with battery voltage and polarity of the terminals		N/A
7.12	The instructions for appliances incorporating batteries intended to be replaced by the user includes required information		N/A
	Details about how to remove batteries containing materials hazardous to the environment given		N/A
7.15	Markings placed on the part of the appliance connected to the supply mains		N/A
8.2	Appliances having batteries that according to the instruction may be replaced by the user need only have basic insulation between live parts and the inner surface of the battery compartment		N/A
	If the appliance can be operated without batteries, double or reinforced insulation required		N/A
11.7	The battery is charged for the period described		N/A
19.1	Appliances subjected to tests of 19.101, 19.102 and 19.103		N/A
19.101	Appliances supplied at rated voltage for 168 h, the battery being continually charged		N/A
19.102	Short-circuiting of the terminals of the battery, being fully charged, for appliances having batteries that can be removed without the aid of a tool		N/A
19.103	Appliances having batteries replaceable by the user supplied at rated voltage under normal operation with the battery removed or in any position allowed by the construction		N/A
21.101	Appliances having pins for insertion into socket-outlets have adequate mechanical strength, checked according to procedure 2 of IEC 68-2-32		N/A
	Part of the appliance incorporating the pins subjected to the free fall test, procedure 2, of IEC 60068-2-32, the number of falls being:		—
	- 100, the mass of part does not exceed 250 g		N/A
	- 50, the mass of part exceeds 250 g		N/A
	After the test, the requirements of 8.1, 15.1.1, 16.3 and clause 29 are met		N/A
22.3	Appliances having pins for insertion into socket-outlets tested as fully assembled as possible		N/A

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
25.13	An additional lining or bushing not required for interconnection cords operating at safety extra-low voltage		N/A
30.2	For parts of the appliance connected to the supply mains during the charging period, 30.2.3 applies		N/A
	For other parts, 30.2.2 applies		N/A

C	ANNEX C (NORMATIVE) AGEING TEST ON MOTORS		---
	Tests, as described, carried out when doubt with regard to the temperature classification of the insulation of a motor winding		N/A

D	ANNEX D (NORMATIVE) THERMAL MOTOR PROTECTORS		N/A
---	---	--	-----

E	ANNEX E (NORMATIVE) NEEDLE-FLAME TEST		---
	Needle-flame test carried out in accordance with IEC 60695-2-2, with the following modifications:		---
5	Severities		---
	The duration of application of the test flame is 30 s $\pm$ 1 s	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
8	Test procedure		---
8.2	The specimen so arranged that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
8.4	The first paragraph does not apply	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	If possible, the flame is applied at least 10 mm from a corner	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
8.5	The test is carried out on one specimen	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	If the specimen does not withstand the test, the test may be repeated on two further specimens, both withstanding the test	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
10	Evaluation of test results		---
	The duration of burning not exceeding 30 s	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
	However, for printed circuit boards, the duration of burning not exceeding 15 s	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---

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Clause	Requirement – Test	Result	Verdict
F	ANNEX F (NORMATIVE) CAPACITORS		—
	Capacitors likely to be permanently subjected to the supply voltage, and used for radio interference suppression or voltage dividing, comply with the following clauses of IEC 60384-14, with the following modifications:		—
1.5	Terminology		—
1.5.3	Class X capacitors tested according to subclass X2		N/A
1.5.4	This subclause is applicable		N/A
1.6	Marking		—
	Items a) and b) are applicable		N/A
3.4	Approval testing		—
3.4.3.2	Table II is applicable as described		N/A
4.1	Visual examination and check of dimensions		—
	This subclause is applicable		N/A
4.2	Electrical tests		—
4.2.1	This subclause is applicable		N/A
4.2.5	This subclause is applicable		N/A
4.2.5.2	Only table IX is applicable		N/A
	Values for test A apply		N/A
	However, for capacitors in heating appliances the values for test B or C apply		N/A
4.12	Damp heat, steady state		—
	This subclause is applicable		N/A
	Only insulation resistance and voltage proof are checked		N/A
4.13	Impulse voltage		—
	This subclause is applicable		N/A
4.14	Endurance		—
	Subclauses 4.14.1, 4.14.3, 4.14.4 and 4.14.7 applicable		N/A
4.14.7	Only insulation resistance and voltage proof are checked		N/A
	Visual examination, no visible damage		N/A
4.17	Passive flammability test		—

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Clause	Requirement – Test	Result	Verdict
	This subclause is applicable		N/A
4.18	Active flammability test		—
	This subclause is applicable		N/A

G	ANNEX G (NORMATIVE) SAFETY ISOLATING TRANSFORMERS		—
	The following modifications to this standard are applicable for safety isolating transformers:		—
7	Marking and instructions		—
7.1	Transformers for specific use marked with:		—
	-name, trademark or identification mark of the manufacturer or responsible vendor		N/A
	-model or type reference		N/A
17	Overload protection of transformers and associated circuits		—
	Fail-safe transformers comply with subclause 15.5 of IEC 61558-1		N/A
22	Construction		—
	Subclauses 19.1 and 19.1.2 of IEC 61558-2-6 are applicable		N/A
29	Clearances, creepage distances and solid insulation		—
29.1, 29.2 and 29.3	The distances specified in items 2a, 2c and 3 in table 13 of IEC 61558-1 apply		N/A

H	ANNEX H (NORMATIVE) SWITCHES		—
	Switches comply with the following clauses of IEC 61058-1, as modified:		—
	-The tests of IEC 61058-1 carried out under the conditions occurring in the appliance		N/A
	-Before being tested, switches are operated 20 times without load		N/A
8	Marking and documentation		—
	Switches are not required to be marked		N/A
	However, switches that can be tested separately from the appliance marked with the manufacturer's name or trade mark and the type reference		N/A
13	Mechanism		—

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	The tests may be carried out on a separate sample		N/A
15	Insulation resistance and dielectric strength		—
15.1	Not applicable		N/A
15.2	Not applicable		N/A
15.3	Applicable for full disconnection and micro-disconnection		N/A
17	Endurance		—
	Compliance is checked on three separate appliances or switches		N/A
	For 17.2.4.4, the number of cycles is 10 000, unless otherwise specified in 24.1.3 of the relevant part 2 of IEC 60335		N/A
	Switches for operation under no load and which can be operated only by a tool and switches operated by hand that are interlocked so that they cannot be operated under load, are not subjected to the tests		N/A
	Subclause 17.2.2 and 17.2.5.2 are not applicable		N/A
	The ambient temperature during the test is that occurring in the appliance during the test of Clause 11 in IEC 60335-1		N/A
	Temperature rise of the terminals not more than 30 K above the temperature rise measured in clause 11 of IEC 60335-1		N/A
20	Clearances, creepage distances, solid insulation and coatings of rigid printed board assemblies		—
	This clause is applicable to clearances and creepage distances for functional insulation, across full disconnection and micro-disconnection, as stated in table 24		N/A

I	ANNEX I (NORMATIVE) MOTORS HAVING BASIC INSULATION THAT IS INADEQUATE FOR THE RATED VOLTAGE OF THE APPLIANCE	N/A
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J	ANNEX J (NORMATIVE) COATED PRINTED CIRCUIT BOARDS	—
	Testing of protective coatings of printed circuit boards carried out in accordance with IEC 60664-3 with the following modifications:	—
6.6	Climatic sequence	—
	When production samples are used, three	Replaced by IEC/EN 60335- ---

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	samples of the printed circuit board are tested	1/A2:2006, See appendix	
6.6.1	Cold		—
	The test is carried out at -25°C	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
6.6.3	Rapid change of temperature		—
	Severity 1 is specified	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
6.8.6	Partial discharge extinction voltage		—
	Type A coatings not subjected to a partial discharge test	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---
6.9	Additional tests		—
	This sub-clause is not applicable	Replaced by IEC/EN 60335-1/A2:2006, See appendix	---

K	ANNEX K (NORMATIVE) OVERVOLTAGE CATEGORIES		—
	The information on overvoltage categories is extracted from IEC 60664-1		P
	Overvoltage category is a numeral defining a transient overvoltage condition		P
	Equipment of overvoltage category IV is for use at the origin of the installation		N/A
	Equipment of overvoltage category III is equipment in fixed installations and for cases where the reliability and the availability of the equipment is subject to special requirements		N/A
	Equipment of overvoltage category II is energy consuming equipment to be supplied from the fixed installation		P
	If such equipment is subjected to special requirements with regard to reliability and availability, overvoltage category III applies		N/A
	Equipment of overvoltage category I is equipment for connection to circuits in which measures are taken to limit transient overvoltages to an appropriate low level		N/A

L	ANNEX L (INFORMATIVE) GUIDANCE FOR THE MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES		—
	Sequences for the determination of clearances and creepage distances		P

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict

M	ANNEX M (NORMATIVE) POLLUTION DEGREE		—
	The information on pollution degrees is extracted from IEC 60664-1		P
	Pollution		—
	The microenvironment determines the effect of pollution on the insulation, taking into account the microenvironment		P
	Means may be provided to reduce pollution at the insulation by effective enclosures or similar		P
	Minimum clearances specified where pollution may be present in the microenvironment		P
	Degrees of pollution in the microenvironment		—
	For evaluating creepage distances, the following degrees of pollution in the microenvironment are established:		—
	- pollution degree 1: no pollution or only dry, non-conductive pollution occurs. The pollution has no influence		N/A
	- pollution degree 2: only non-conductive pollution occurs, except that occasionally a temporary conductivity caused by condensation is to be expected		P
	- pollution degree 3: conductive pollution occurs or dry non-conductive pollution occurs that becomes conductive due to condensation that is to be expected		N/A
	- pollution degree 4: the pollution generates persistent conductivity caused by conductive dust or by rain or snow		N/A

N	ANNEX N (NORMATIVE) PROOF TRACKING TEST		—
	The proof tracking test is carried out in accordance with IEC 60112 with the following modifications:		—
7	Test apparatus		—
7.3	Test solutions		—
	Test solution A is used		N/A
10	Determination of proof tracking index (PTI)		—
10.1	Procedure		—
	Proof voltage is 100V, 175V, 400V or 600V		N/A

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	Last paragraph of clause 3 applies		N/A
	The test is carried out on five specimens		N/A
	In case of doubt, additional test with proof voltage reduced by 25V, the number of drops increased to 100		N/A
10.2	Report		—
	The report stating if the PTI value was based on a test using 100 drops with a test voltage of (PTI-25) V		N/A

O	ANNEX O (INFORMATIVE) SELECTION AND SEQUENCE OF THE TESTS OF CLAUSE 30		—
	Description of tests for determination of resistance to heat and fire		P

P	ANNEX P (INFORMATIVE) GUIDANCE FOR THE APPLICATION OF THIS STANDARD TO APPLIANCES USED IN WARM DAMP EQUABLE CLIMATES		—
	Modifications applicable for class 0 and 0I appliances having a rated voltage exceeding 150V, intended to be used in countries having a warm damp equable climate and that are marked WDaE		—
	Modifications may also be applied to class I appliances having a rated voltage exceeding 150V, intended to be used in countries having a warm damp equable climate and that are marked WDaE, if liable to be connected to a supply mains that excludes the protective earthing conductor		—
5	General conditions for the tests		—
5.7	The ambient temperature for the tests of Clauses 11 and 13 is 40^{+3}_0 °C		N/A
7	Marking and instructions		—
7.1	The appliance marked with the letters WDaE		N/A
7.12	The instructions state that the appliance is to be supplied through a RCD having a rated residual operating current not exceeding 30mA		N/A
	The instructions state that the appliance is considered to be suitable for use in countries having a warm damp equable climate, but may also be used in other countries		N/A
11	Heating		—
11.8	The values of Table 3 are reduced by 15K		N/A
13	Leakage current and electric strength at operating temperature		—
13.2	The leakage current for class I appliances not		N/A

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
	exceeding 0.5mA		
15	Moisture resistance		—
15.3	The value of t is 37°C		N/A
16	Leakage current and electric strength		—
16.2	The leakage current for class I appliances not exceeding 0.5mA		N/A
19	Abnormal operation		—
19.13	The leakage current test of 16.2 is applied in addition to the electric strength test of 16.3		N/A

Q	ANNEX Q (INFORMATIVE) SEQUENCE OF TESTS FOR THE EVALUATION OF ELECTRONIC CIRCUITS	—
	Description of tests for appliances incorporating electronics circuits	—

R	ANNEX R (NORMATIVE) SOFTWARE EVALUATION	—
	Software evaluated in accordance with the following clauses of Annex H of IEC 60730-1, as modified:	—
H.2	Definitions	N/A
	Only definitions H.2.16 to H.2.20 applicable	N/A
H.7	Information	N/A
	Only footnotes 12) to 18) of Table 7.2, as modified, applicable	N/A
H.11.12	Controls using software	N/A
	All the subclauses of H.11.12, as modified, except H.11.12.6 and H.11.12.6.1, applicable	N/A
H.11.12.7	Delete text	N/A
H.11.12.7.1	For appliances using software class C having a single channel with self-test and monitoring structure, the manufacturer provides the measures necessary to address the fault/errors in safety related segments and data	N/A
H.11.12.8	Software fault/error detection occurs before compliance with 19.13 of IEC 60335-1 is impaired	N/A
H.12.8.1	Replace text	N/A
H.12.13	Software and safety related hardware under its control initializes and terminates before compliance with 19.13 of IEC 60335-1 is impaired	N/A

IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict

AA	ANNEX AA (INFORMATIVE) Examples for operating temperatures of the appliance		—
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BB	ANNEX BB (NORMATIVE) Selected information about refrigerants		—
----	--	--	---

CC	ANNEX CC (INFORMATIVE) Transportation, marking and storage for units that employ flammable refrigerants		—
CC.1	Transport of equipment containing flammable refrigerants		N/A
CC.2	Marking of equipment using signs		N/A
CC.3	Disposal of equipment using flammable refrigerants		N/A
CC.4	Storage of equipment/appliances		N/A
CC.5	Storage of packed (unsold) equipment		N/A

DD	ANNEX DD (NORMATIVE) Service operations		—
DD.1	Generals		N/A
DD.2	Symbols		N/A
DD.3	Information in manual		N/A
DD.4	Information on servicing		N/A
DD.5	Repairs to sealed components		N/A
DD.6	Repair to intrinsically safe components		N/A
DD.7	Cabling		N/A
DD.8	Detection of flammable refrigerants		N/A
DD.9	Leak detection methods		N/A
DD.10	Removal and evacuation		N/A
DD.11	Charging procedures		N/A
DD.12	Decommissioning		N/A
DD.13	Labelling		N/A
DD.14	Recovery		N/A

EE	ANNEX EE (NORMATIVE) Pressure Tests		—
EE.1	General		P

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IEC / EN 60335-2-40			
Clause	Requirement – Test	Result	Verdict
EE.2	Pressure test value determined under testing carried out in Clause 11	Measure pressure: Indoor unit: 3,2MPa; Outdoor unit: 3,2MPa	P
EE.3	Pressure test value determined under testing carried out in Clause 19.	Measure pressure: Indoor unit: 3,8MPa; Outdoor unit: 4,2MPa Tested pressure: Indoor unit: 11,4MPa; Outdoor unit: 12,6MPa	P
EE.4	Pressure test value determined under testing carried out under standstill conditions		N/A
EE.5	Fatigue test option for Clauses EE.1 and EE.4.1		N/A

FF	ANNEX FF (NORMATIVE) Leak simulation tests		—
FF.1	General		N/A
FF.2	Test methods		N/A

GG	ANNEX GG (NORMATIVE) Charge limits, ventilation requirements and requirements for secondary circuits		—
GG.1	Requirements for charge limits in ventilated areas		N/A
GG.2	Requirements for charge limits in unventilated areas		N/A
GG.3	Requirements for charge limits in areas with mechanical ventilation		N/A
GG.4	Requirements for mechanical ventilation within the appliance enclosure		N/A
GG.5	Requirements for mechanical ventilation for rooms complying with ISO 5149		N/A
GG.6	Requirements for refrigeration systems employing secondary heat exchangers		N/A
GG.7	The appliance shall then be tested with a maximum water flow under the conditions described in g).		N/A

APPENDIX 1:			
To complete the assessment according to EN 60335-1 the following requirements are considered as well :			
GROUP DIFFERENCES to IEC 60335-1, 4 th ed (CB Bulletin 109B)			

Clause	Requirement – Test	Result	Verdict
6.1	Protection against electric shock: Class 0, 0I (IEC 60335-1), I, II, III	Class I	P
7.1	Rated voltage or voltage range shall cover -230 V for single-phase appliances -400 V for multi-phase appliances		P
25.6	Supply cords of single-phase portable appliances having a rated current not exceeding 16 A shall be provided with a plug complying with the following standard sheets of IEC 60083 : 1975:		—
25.6	-for Class I appliances (standard sheet C2b, C3b or C4)	...	N/A
25.6	-for Class II appliances (standard sheet C5 or C6)	...	N/A
25.7	Add -ordinary polychloroprene sheathed flexible cord (code designation 60245 IEC 57) (H05RN-F)		N/A
	When supply cords having high flexibility are used, they shall not be lighter than :		—
	- rubber insulated and sheathed cord (code designation 60245 IEC 86) (H03RR-H);		N/A
	- rubber insulated, crosslinked PVC sheathed cord (code designation 60245 IEC 87) (H03RV4-H);		N/A
	- crosslinked PVC insulated and sheathed cord (code designation 60245 IEC 88) (H03V4V4-H).		N/A
	NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		N/A

ANNEX ZC (normative)	Normative references to international publications with their corresponding European publications		N/A
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ANNEX ZD (informative)	IEC and CENELEC code designations for flexible cords		N/A
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Clause	Requirement – Test	Result	Verdict
ZA	ANNEX ZA, SPECIAL NATIONAL CONDITIONS (EN 60335-1:2002)		—
7.12	DENMARK: requirements regarding marking tag of power supply cord and connecting of earthing wire		Not checked
19.5	NORWAY: the test is also applicable to appliances intended to be permanently connected to fixed wiring		Not checked
22.2	FRANCE, NORWAY: The second paragraph of this subclause dealing with single-phase Class I permanently connected appliances with heating elements is not applicable due to the supply system		Not checked
25.6	BELGIUM, FRANCE, SPAIN , UNITED KINGDOM: plugs according to Standard Sheet C2b not allowed		Not checked
	AUSTRIA, FINLAND, GERMANY, ICELAND, IRELAND, ITALY, LUXEMBOURG, NETHERLANDS, NORWAY, PORTUGAL, SPAIN, SWEDEN, SWITZERLAND, UNITED KINGDOM: plugs according to Standard C3b not allowed		Not checked
	DENMARK: Supply cords of single-phase portable appliances having a rated current not exceeding 13 A provided with a plug according to the following:		—
	- Class I appliances: Section 107-2-D1 Standard Sheet DK2-1a		Not checked
	For appliances covered by a Part 2 of EN 60 335, also plugs in accordance with Section 107-2-D1 Standard Sheet C2b, C3b or C4 are allowed		Not checked
	- Class II appliances: Section 107-2-D1, Standard Sheet C1b ,C5, C6, DKA2-1a and DKA2-1b		Not checked
	Stationary single-phase appliances, having a rated current not exceeding 13 A, and provided with a plug, the plug is in accordance with the requirements above		Not checked
	Multi-phase appliances and single-phase appliances having a rated current exceeding 13 A, and provided with a plug, the plug is in accordance with the requirements below:		—
	- Class I appliances: Section 107-2-D1, Standard Sheet DK6-1a/EN 60 309-2, Standard Sheet 2-II, 2-IV		Not checked
	- Class II appliances: Section 107-2-D1, Standard Sheet DK6-1a*/2-II, 2-IV*		Not checked

Clause	Requirement – Test	Result	Verdict
	For max. allowed current values see EN 60335-1		Not checked
	IRELAND: plug is in accordance with Standard Sheets B2 and C2b (see annex ZB as well)		Not checked
	ITALY: Only plugs listed in CENELEC Report ROBT-005:2001 are allowed		Not checked
	SPAIN: For household appliances the following plugs only are allowed:		—
	- UNE 20315:ESC 10-1b, C2b, C4, C6, or ESB 25-5b;		Not checked
	- UNE-EN 50075		Not checked
	SWITZERLAND: supply cords of portable household and similar electrical appliances, rated current not exceeding 10 A, provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:		—
	SEV 6532-2:1991 plug type 15 3P+N+PE 250/400 V, 10 A		Not checked
	SEV 6533-2:1991 plug type 11 L+N 250 V, 10 A		Not checked
	SEV 6534-2:1991 plug type 12 L+N+PE 250 V, 10 A		Not checked
	UNITED KINGDOM: plug according to Standard Sheet B2 or C5 used (refer to Annex ZB)		Not checked
25.8	IRELAND, UNITED KINGDOM: replacement of figures (rated current/cross-sectional area) in the table		Not checked

ZB	ANNEX ZB, A-DEVIATIONS	(EN 60335-1:2002)	—
4	SWITZERLAND: information about batteries		Not checked
7.1	ITALY: the voltage is 220 V/380 V		Not checked
	SPAIN: the voltages are 127 V/220 V and 220 V/380 V		Not checked
25.6	IRELAND / UNITED KINGDOM: regulations concerning plugs to be fitted to domestic appliances		Not checked

ZAA	ANNEX ZAA (informative)	(EN 60335-2-40/A11:2004)	—
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Clause	Requirement – Test	Result	Verdict
	Refrigerating systems having a pressure greater than 0,05 MPa are considered to be assemblies falling within the scope of the Pressure Equipment Directive, 97/23/EC. However, according to Article 1, item 3.6 of the directive, equipment classified no higher than category I and covered by the low voltage directive is excluded from its scope.		N/A
	According to guideline 1/39 of the directive, this exclusion applies to both components and assemblies (refrigerant circuits). This applies to appliances containing vessels (e.g. compressors, receivers) or piping with limits in accordance with the following:		N/A
	vessels		---
	dangerous refrigerants (Annex II, Table 1):		---
	•volume not exceeding 1 l, or		N/A
	•pressure x volume not exceeding 5 MPa l.		N/A
	non-dangerous refrigerants (Annex II, Table 2):		---
	•volume not exceeding 1 l, or		N/A
	•pressure x volume not exceeding 20 MPa l.		P
	Piping		---
	dangerous refrigerants (Annex II, Table 6):		---
	•numerical designation not exceeding 25, or		N/A
	•pressure not exceeding 1 MPa and numerical designation not exceeding 100, or		N/A
	•pressure exceeding 1 MPa and pressure x numerical designation not exceeding 100 MPa.		N/A
	non-dangerous refrigerants (Annex II, Table 7):		---
	•numerical designation not exceeding 100, or		---
	•pressure x numerical designation not exceeding 350 MPa.		P
	For other components, the most onerous limit of the two applies.		N/A
	The volume is the internal volume of the vessel and includes the volume of pipework up to the first connection. It excludes the volume of fixed internal parts.●		N/A

ANNEX EMF

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Clause	Requirement – Test	Result	Verdict
	The Tested product also complies to the requirements of EN 62233:2008		—
	Limit100%	Max.: 1,735%	P

TABLES:

10.1	TABLE: Power input deviation					P
Input deviation of/at:		P rated (W)	P measured (W)	dP	Required dP	Remark
GWH24RD-K3DNA3C / at 230V~, 50Hz		3050	2214,9	-27,4%	+15%	Cooling mode
		2700	2074,6	-23,2%	+15%	Heating mode
GWH24RD-K3DNA8C / at 230V~, 50Hz		4000	3986,0	-0,4%	+15%	Heating mode

10.2	TABLE: Current deviation					N/A
Current deviation of/at:		I rated (A)	I measured (A)	dI	Required dI	Remark

11.8	TABLE: Heating test, thermocouples			P
	Test voltage (V)	240x1,06=254,4V		—
	Ambient, t ₁ (°C)	Cooling mode: 32/23(IU); 43/26(OU) Heating mode: 27/--(IU); 24/18(OU)		
	Ambient, t ₂ (°C)	Same as above		—
Thermocouple locations		T (°C)		Max. T (°C)
		cooling	heating	
Indoor unit:				
Supply cord	44,4	36,6	75	
Relay ambient	35,7	30,9	T70	
PCB	36,2	32,0	145	
X capacitor	36,6	37,4	T100	
Varistor	36,2	31,2	T85	
High frequency transformer	43,9	39,6	Class E: 105	
Inductance	45,7	48,4	Class E: 105	
Terminal block	33,9	28,6	85	
Fan motor enclosure	86,0	65,2	For reference	
Capacitor of fan motor	36,8	31,5	T70	
Step motor	40,8	38,1	For reference	
Enclosure of indoor unit	32,1	25,8	85	
Outdoor unit:				
Fan motor enclosure	60,7	30,7	For reference	
Compressor enclosure (Top)	80,3	73,3	For reference	
Compressor enclosure (side)	51,4	31,5	For reference	

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Discharge pipe of compressor	81,4	74,5	For reference
Suction pipe of compressor	13,9	20,4	For reference
4-way valve	51,3	78,9	For reference
Terminal block	54,3	37,9	85
Compressor lead wire	56,8	45,7	T105
Interconnection cord	40,7	36,9	75
Reactor	74,0	35,9	Class H: 165
PCB	52,7	35,7	145
X capacitor	38,8	33,6	T100
Relay ambient	37,0	31,5	T70
High frequency transformer	52,9	37,9	Class E: 105
Test corner	44,9	20,5	90

11.8	TABLE: Heating test, resistance method							P	
	Test voltage (V).....:				240x1,06=254,4V		—		
	Ambient, t ₁ (°C).....:				25		—		
	Ambient, t ₂ (°C).....:				Cooling mode: 32/23(IU); 43/26(OU) Heating mode: 27/--(IU); 24/18(OU)		—		
Temperature of winding		T ₁ (°C)	R ₁ (Ω)	R ₂ (Ω)		T (°C)		Max. T (°C)	Insulation class
				Cooling	Heating	Cooling	Heating		
Main winding of indoor fan motor FN25A-PG (Kaibang)		25	194,0	248,9	234,5	98,4	79,2	115	E
Aux. winding of indoor fan motor FN25A-PG (Kaibang)		25	188,8	237,9	224,3	92,5	73,8	115	E
4 ways valve		25	1970	--	2403	--	82,0	120	B
Remark:									
1. The resistance method for 4 ways valve only conducted under heating operation mode because it only operated at this mode.									
2. The outdoor fan motor LW92K-ZL is DC type motor which is difficult to conduct resistance method.									

13.2	TABLE: Leakage current						P
	Heating appliances: 1.15 x rated input	N/A					—
	Motor-operated and combined appliances: 1.06 x rated voltage	240x1,06=254,4V					—
Leakage current between				I (mA)		Max. allowed I (mA)	
Live parts and accessible earthed metal part				L: 0,33; N: 0,34		3,5	
Live parts and plastic enclosure				L: 0,024; N: 0,023		0,25	

13.3	TABLE: Electric strength						P
------	--------------------------	--	--	--	--	--	---

Test voltage applied between:	Voltage (V)	Breakdown (Yes/No)
Live parts and accessible earthed metal part	1000	No
Internal wire sheath and plastic enclosure	1750	No
Live parts and plastic enclosure	3000	No

14	TABLE: Transient overvoltages					N/A
Clearance between:		CI (mm)	Required CI (mm)	Rated impulse voltage (V)	Impulse test voltage (V)	Flashover (Yes/No)

16.2	TABLE: Leakage current			P
	Single phase appliances: 1.06 x rated voltage	240x1,06=254,4V		—
	Three phase appliances 1.06 x rated voltage divided by $\sqrt{3}$:	N/A		—
Leakage current between		I (mA)	Max. allowed I (mA)	
Live parts and accessible earthed meal part		Max.: 0,82	3,5	
Live parts and plastic enclosure		Max.: 0,054	0,25	

16.3	TABLE: Electric strength			P
Test voltage applied between:	Voltage (V)	Breakdown (Yes/No)		
Live parts and accessible earthed meal part	1250	No		
Internal wire sheath and plastic enclosure	1750	No		
Live parts and plastic enclosure	3000	No		

17	TABLE: Overload protection,			N/A
Temperature of part/at:	dT (°C)	Max. dT (°C)		

19.2	TABLE: Lock motor test, temperature measurements.					P
	Test voltage: supplied by the main controller					
	Ambient temperature: 25 °C					
	Duration: 15 days endurance test, after 3 days high-voltage test performed.					
Measured sample	Insulation class	Enclosure temperature(°C)	Winding temperature (°C)	HV test performed with 1250V	Leakage current (mA)	
FN25A-PG (Kaibang)	E	103,1	114,5	Pass	0,052	
LW92K-ZL (Kaibang)	E	86,4	127,0	Pass	0,051	

Remark:

The temperature limited for enclosure is 150°C, for Class E is 165°C, and the Leakage current is 2 mA.

19.14	TABLE: Abnormal operation		P
	t ₁ (°C)	---	-
	t ₂ (°C)	---	-
Temperature T of part / at :		T (°C)	Required T (°C)
19.4			
Test corner		47,1	175
Supply cord		37,1	175
19.5			
Test corner		Maximum: 44,8	175
Supply cord		Maximum: 45,9	175
19.7			
Test corner		Maximum: 53,7	175
Supply cord		Maximum: 50,7	175
19.10			
Test corner		Maximum: 44,1	175
Supply cord		Maximum: 47,8	175

24.1	TABLE: Components					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity	
A1: GWH24RD-K3DNA2C, GWH24RD-K3DNA3C; A2: GWH24RD-K3DNA6C; A3: GWH24RD-K3DNA8C, GWH24RD-K3DBA5E, GWH24RD-K3DBE1E, GWH24RD-K3DNA5C, GWH24RD-K3DBA3E						
Indoor unit:						
Supply lead	Guangdong Huasheng Electrical Appliances Co., Ltd.	H05VV-F	3G2,5 mm ²	DIN VDE 0281-5	VDE 40005362	
Alternative	Changzhou Hongchang Electronics Co., Ltd.	H05VV-F	3G2,5 mm ²	DIN VDE 0281-5	VDE 124978	
Alternative	Various	H05VV-F	3G2,5 mm ²	DIN VDE 0281-5	S or other EU certification marks	
Interconnecti on cord for A1, A2	Guangdong Huasheng Electrical Appliances Co., Ltd.	H07RN-F	4G2,5 mm ²	DIN VDE 0282-4	VDE 40016788	
Alternative	Eastwire Industrial Limited	H07RN-F	4G2,5 mm ²	DIN VDE 0282-4	VDE 40016464	

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Alternative	Various	H07RN-F	4G2,5 mm ²	DIN VDE 0282-4	S or other EU certification marks
Interconnection cord only for A3	Guangdong Huasheng Electrical Appliances Co., Ltd.	S05RN-F	4G0,75 mm ²	DIN VDE 0282-4	VDE 40015785
Alternative	Various	S05RN-F	4G0,75 mm ²	DIN VDE 0282-4	S or other EU certification marks
Interconnection cord for A3	Guangdong Huasheng Electrical Appliances Co., Ltd.	H07RN-F	3G2,5 mm ²	DIN VDE 0282-4	VDE 40016788
Alternative	Eastwire Industrial Limited	H07RN-F	3G2,5 mm ²	DIN VDE 0282-4	VDE 40016464
Alternative	Various	H07RN-F	3G2,5 mm ²	DIN VDE 0282-4	S or other EU certification marks
Step Motor	Jiangsu Huayang Electrical Appliance Co.; Ltd	MP35XX	12VDC; Class A; 130±8%Ω	EN 60335-2-40	Tested with appliance
Alternative	Changzhou Oukai Electrical Appliance Co.; Ltd	MP35XX	12VDC; Class A; 130±8%Ω	EN 60335-2-40	Tested with appliance
Indoor fan motor	Zhuhai Kaibang Motor Manufacturing Co., Ltd.	FN25A-PG	220-240V~; 50Hz; 35W; 0,31A; Class E; Main:194±8%Ω; Aux:188,8±8%Ω	EN 60335-2-40	Tested with appliance
-Fan Motor Protector	Jiangsu Changsheng Electric Appliance Co. Ltd.	BR-B5D	250V; 5A; Operation:100°C	EN 60730-1 EN 60730-2-2	VDE 40015984
-Alternative	Changzhou Changhong Tongli Electric Appliance Co. Ltd.	KW Series	250V; 8A; Operation:100°C	EN 60730-1 EN 60730-2-2	VDE 40020906
-Alternative	Sensata Technologies Holland; B.V.	BRL Series	250V; 8A; Operation:100°C	EN 60730-1 EN 60730-2-2	KEMA 2089558.01
-Fan motor capacitor	Wuxi Xixi Capacitor Co.; Ltd.	CBB61-1	2,5uF; 450V; T70	EN 60252-1	TÜV Rheinland R50128479
-Alternative	Zhuhai Gree Xinyuan Electronic Co., Ltd.	CBB61	2,5uF; 500VAC; T70	EN 60252-1	TÜV Rheinland R50120798
-Alternative	Xiamen Faratronic Co., Ltd.	CBB61	2,5uF; 450VAC; T70	EN 60252-1	VDE 40004094
-Alternative	NINGBO SHINE ELECTRICAL CO. LTD.	CBB61A	2,5uF; 450VAC; T70	EN 60252-1	TÜV Rheinland R50065558

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-Alternative	Shanghai Haoye Capacitors Co., Ltd.	MKNS255	2,5uF; 450VAC; T70	EN 60252-1	TÜV Rheinland R50035566
-Alternative	Foshan Shunde Fongming Electronic Tech. Co., Ltd.	CBB61	2,5uF; 450VAC; T70	EN 60252-1	VDE 40006835
Cold plasma generator	Shandong Xuesheng Technology Co., Ltd.	XS-PL-06	220-240VAC; 50/60Hz; ≤2W	EN 60335-1; EN 60335-2-65	TÜV Rheinland R50172899
Main board only for A1	GREE	M846F2TJ	--	EN 60335-2-40	Tested with appliance
Main board only for A2	GREE	M846F2TAJ	--	EN 60335-2-40	Tested with appliance
Main board only for A3	GREE	M846F2UEJ	--	EN 60335-2-40	Tested with appliance
-X Capacitor 1#	Xiamen Faratronic Co., Ltd.	MKP62	275VAC; 104M; T110	EN 132400; IEC 60384-14	VDE 40000358
-Alternative	Anhui Xinyang Electronics Co., Ltd.	MKP	0,1μF; AC275V; T100	IEC 60384-14; EN 132400	VDE 40024537
-Alternative	OKAYA Electric Industries Co., Ltd.	LE104	275VAC; 0,1μF; T100	IEC 60384-14; EN 132400	SEMKO SE/0142-1D
-Alternative	Various	Various	0,1μF; AC275V; T100 or above	IEC 60384-14; EN 132400	S or other EU certification marks
-X Capacitor 2#	Xiamen Faratronic Co., Ltd.	MKP62	275VAC; 224K; T110; X2	EN 132400; IEC 60384-14	VDE 40000358
-Alternative	OKAYA Electric Industries Co., Ltd.	LE224	275VAC; 0,22μF; T100	IEC 60384-14; EN 132400	SEMKO SE/0142-1D
-Alternative	Various	Various	0,22μF; AC275V; X2; T100 or above	IEC 60384-14; EN 132400	S or other EU certification marks
-Y capacitor	TDK-EPC Corporation, Capacitors Group	CS103M	250VAC; 103M; Y2	IEC 60384-14; EN132400	VDE 40029781
-Alternative	Various	Various	250VAC; 103M; Y2	IEC 60384-14; EN 132400	S or other EU certification marks
-Y capacitor for A3	Murata Mfg. Co., Ltd.	KX472M	250VAC; 472M	IEC 60384-14 EN 60384-14	VDE 40002831
-Alternative	Various	Various	250VAC; 472M	IEC 60384-14 EN 60384-14	S or other EU certification marks

-Varistor	Chengdu Tieda Electronic Co., Ltd.	MYN15-621K	385VAC; T85	CECC 42000; CECC 42200; CECC 42201	VDE 40008571
-Alternative	Xianhua Advanced Sensitive Components Co., Ltd.	FNR-14K621	380VAC; T85	CECC 42000; CECC 42200; CECC 42201	VDE 40008242
-Opto-coupler	Sharp Corporation	PC817	Vceo:80V; If:50mA; Ic:50mA	EN 60747-5-2	VDE 40008087
-Alternative	Sharp Corporation	PC851	Vceo:350V; If:50mA; Ic:50mA	EN 60747-5-2	VDE 40008087
-PCB material	DOOSAN CORPORATION ELECTRO-MATERIALS BG	DS-7106	CEM-1; 94V-0; 1,6mm	EN 60335-2-40; UL 94	Tested with appliance & UL E103670
-Alternative	CHANG CHUN PLASTICS CO LTD	CCP-508U	CEM-1; 94V-0; 1,6mm	EN 60335-2-40; UL 94	Tested with appliance & UL E108591
-Alternative	PACIFIC INSULATING MATERIAL CO LTD	P-121	CEM-1; 94V-0; 1,6mm	EN 60335-2-40; UL 94	Tested with appliance & UL E115974
-Alternative	GUANGDONG SHENGYI SCI TECH CO LTD	S3116	CEM-1; 94V-0; 1,6mm	EN 60335-2-40; UL 94	Tested with appliance & UL E109769
-Alternative	Various	Various	CEM-3 or FR-4; 94V-0; CTI 3; thickness: 1,6±0,4mm	UL 94; IEC 60707	S, ETL, UL or other EU certification marks
-High Frequency Transformer	TDK XIAMEN Co., LTD.	ECO20-11P	L- Pri.:550uH±10%; Lk-Pri:9,5uH MAX; 12,5V/0,8A; 15V/100mA; Class E	EN 60335-2-40	Tested with appliance
-Alternative	SHENZHEN YAMAXI ELECTRONICS CO., LTD	ECO20-11P	≤250V/AC; 5- 200KHZ; 12,5V; 15V; Pri.R(3- 2):0,45Ω±20%; R(6- 5):0,53Ω±20% ; R(2- 1):0,68Ω±20%;Sec .R(9- 7):120mΩ±20%; R(12- 11):32.2mΩ±30%; R(10- 7):160mΩ±20%; L- Pri.:550uH±10%; Lk-Pri:9,5uH MAX; Class B	EN 60335-2-40	Tested with appliance

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-Inductance	Hangzhou Ruichuang Industry And Trade Co., Ltd.	200uH	200uH/2A	EN 60335-2-40	Tested with appliance
-Alternative	XINJI ELECTRONICS COMPONENT(HANG ZHOU) CO., LTD	200uH	200uH/2A	EN 60335-2-40	Tested with appliance
-Alternative	Shenzhen Yamaxi Electronic Co., Ltd.	T50-26	200uH/2A	EN 60335-2-40	Tested with appliance
-Alternative	HUIZHOU JIAYANG ELECTRONIC NEW-TECH CO., LTD	200uH/2A	200uH/2A	EN 60335-2-40	Tested with appliance
-Alternative	Fenghua Advanced Technology(Holding) Co., Ltd.	200uH/2A	200uH; 2A	EN 60335-2-40	Tested with appliance
-Alternative	Dongguan Dazhong Electronic Co., Ltd.	200uH/2A	200uH; 2A	EN 60335-2-40	Tested with appliance
-Filter	XINJI ELECTRONICS COMPONENT(HANG ZHOU) CO.LTD	SF2022A-05220	AC250V; 0,5A	EN 60335-2-40	Tested with appliance
-Alternative	SHENZHEN YAMAXI ELECTRONIC CO.LTD	SF2022A-05220	AC250V; 0,5A	EN 60335-2-40	Tested with appliance
-Alternative	DAZHONG ELECTRONIC CO.LTD	SF2022A-05220	AC250V; 0,5A	EN 60335-2-40	Tested with appliance
-Relay 1#	Electronics(Shenzhen) Co.; Ltd.	PCF-112D2M	250VAC; 25A; 250VAC; 20A; T55; 100000 cycles	EN 61810-1	TÜV Rheinland R50139097
-Alternative	OMRON Relay & Devices Corporation	G4A-1A-E	250VAC; 20A; T85; 100000 cycles	EN 61810-1	TÜV Rheinland R50214482
-Alternative	OMRON Corporation	G4A-1A-E	250VAC; 20A; T50; 100000 cycles	EN 61810-1	VDE 107293
-Relay 2#	Xiamen Hongfa Electroacoustic Co., Ltd.	JZC-43F	250VAC; 3A; T85	EN 61810-1 EN 60255-23	VDE 40002220
-Alternative	Omron Electronic Components (Shenzhen)LTD	G5NB-1A	250VAC; 3A; T85	EN 60255-23	VDE 137575
-Alternative	Dongguan Sanyou Electrical Appliances Co., Ltd.	SRB-S-112DM	277VAC; 5A; T85	EN 61810-1	TÜV Rheinland R50138320
-Alternative	Songchuan Precision Co., Ltd.	202N-1AC-C	250VAC; 5A; T85	EN 61810-1	VDE 40008369
-Alternative	Tyco Electronics (Shenzhen) Co., Ltd.	PCJ-112D3M	250VAC; 3A; T90	EN 61810-1	VDE 40009151
-Alternative	Dongguan Churod Electronics Co., Ltd.	CHM-S-112DA3	250VAC; 5A; T90	EN 61810-1	TÜV Rheinland R50196152

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-Relay 3# (SSR)	Matsushita Electric Works Ltd.	AQH2223	250VAC; 0,9A; T85	EN 60950	VDE 40004928
-Current fuse	Hollyland Company Limited	50CT	AC 250 V; T; H; 3,15A; 5 x 20 mm	EN 60127-1; EN 60127-2	VDE 40014896
-Alternative	Walter Electronic Co. Ltd.	TSC	AC250V; 3,15A; T; H; 5x20mm	EN 60127-1; EN 60127-2	VDE 40016670
-Alternative	Various	Various	AC 250 V; T; H; 3,15A; 5 x 20 mm	EN 60127-1; EN 60127-2	S or other EU certification marks
-Rectifier	SHINDENGEN ELECTRIC MFG CO LTD	NC 80	AC600V; 1,5A	EN 60335-2-40	Tested with appliance
Terminal board (4 bits)	Changzhou Changheng Kaidu Electric Appliance Co., Ltd.	JX-G-4C	AC250V; 2,5mm ²	EN 60998-1 EN 60998-2-1	VDE 40020936
Alternative	Zhenjiang Honglian Electrician Co., Ltd.	JX1239	250V; 2,5mm ²	EN 60335-2-40	Tested with appliance
Alternative	Nantong Huaguan Electric Co., Ltd.	JXW-4-G1	AC250V; 2,5mm ²	EN 60998-1 EN 60998-2-1	VDE 40013197
Outdoor unit:					
Terminal board	Changzhou Changheng Kaidu Electric Appliance Co., Ltd.	JXD-3	AC450V; 2,5mm ²	EN 60335-2-40	Tested with appliance
Alternative	Nantong Huaguan Electric Co., Ltd.	JXW	AC450V; 2,5mm ² (24A)	EN 60335-2-40	Tested with appliance
Terminal board (5 bits) for A3	Changzhou Changheng Kaidu Electric Appliance Co., Ltd.	JX-G-5H	AC300V; 4,0mm ²	EN 60335-2-40	Tested with appliance
Alternative	Nantong Huaguan Electric Co., Ltd.	JXW	AC300V; 4,0mm ² ; 32A	EN 60335-2-40	Tested with appliance
Compressor	Zhuohai Landa Compressor Co., Ltd.	QXAS-D23zX090B	260-350Vdc; 15-120Hz; 3 PHASE; 2550±3%W; 1,15±7%Ω; Synthetic	EN 60335-2-34 EN 60335-1	TÜV Rheinland R50135262
-Thermal protector of compressor	Sensata Technologies Holland B.V.	1NT11L-6233	Operation: 115±3°C; Reset: 95±5°C	EN 60730-1 EN 60730-2-9	KEMA 2014531.16
-Alternative	Changzhou Changrong Electrical Appliance Co., Ltd	HPC	Operation: 115°C; Reset: 95°C	EN 60730-1 EN 60730-2-9	VDE 40032296

-Alternative	Jiangsu Changheng (Group) Control Devices & Products Co., Ltd.	KSD	Operation: 115°C; Reset: 95°C	EN 60730-1 EN 60730-2-9	VDE 40022995
Chassis's electrical heater only for GWH24RD-K3DBA5E and GWH24RD-K3DBE1E	Zhenjiang Dongfang Electric Heating Technology Co., Ltd.	DYQ-02-I-230	230V; 160W	EN 60335-2-40	Tested with appliance
Outdoor fan motor	Zhuhai Kaibang Motor Manufacturing Co., Ltd.	LW92K-ZL	200-370VDC; 90W; Class E	EN 60335-2-40	Tested with appliance
4 ways valve	Zhejiang Dunan Artificial Environmental Equipment Co., Ltd.	DSF-9-R410A	AC220V-240V; 50/60Hz; 7/5W; 1970±197Ω; Class B	EN 60730-1	VDE 40013212
Alternative	Zhejiang Dunan Artificial Environment Co.; Ltd.	DSF-9-R410A	AC220-240 V; 50/60Hz; 4-6 W; 1470±100Ω; Class B	EN 60730-1	TÜV Rheinland R 50017212
Alternative	Zhejiang Sanhua Climate and Appliance Controls Group Co., Ltd.	SHF-7H-34U-PG	220-240V; 50/60Hz; 4,5/3,5W; Class B; 2085±208Ω	EN 60730-1	VDE 40003240
Reactor	QINGDAO YUNLU ENERGY TECHNOLOGY CO LTD	R 315D	3mH/22A; 60mΩ (20°C); Class H	EN 60335-2-40	tested with appliance
Alternative	HEFEI ECRIEE-TAMURA ELECTRIC CO., LTD	L3mH/22A	3mH/22A; 60mΩ (20°C); Class H	EN 60335-2-40	tested with appliance
Main Board	GREE	W8303GB(TI)	---	EN 60335-2-40	Tested with appliance
-Fuse 1#	HOLLYLANDCOLTD	65TS	AC250V; 30A	EN 60127-1 EN 60127-2	TÜV Rheinland J50136250
-Fuse 2#	Walter Electronic Co.Ltd.	ICP	AC 250V; 3,15A; T	EN 60127-1 EN 60127-3	VDE 40012824
-Alternative	Various	Various	AC 250 V; T; 3,15A	EN 60127-1; EN 60127-3	S or other EU certification marks
-Y capacitor	TDK-EPC Corporation, Capacitors Group	CS103M	250VAC; 103M; Y2	IEC 60384-14; EN132400	VDE 40029781

-Alternative	Various	Various	250VAC; 103M; Y2	IEC 60384-14; EN 132400	S or other EU certification marks
-X capacitor 1#	Xiamen Faratronic Co., Ltd.	MKP62	105K; 275V; T110	EN 60384-14	VDE 40000358
-Alternative	Anhui Xinyang Electronics Co., Ltd.	MKP	1,0μF; 275V; T100	EN 60384-14	VDE 40024537
-Alternative	Pilkor Electronics Ltd.	PCX2 335M	1,0μF; 275V; T85	EN 60384-14	ENEC: SE/0256-2
-Alternative	Various	Various	1,0μF; AC275V; T85 or above; X2	IEC 60384-14; EN 132400	S or other EU certification marks
-X capacitor 2#	Xiamen Faratronic Co. Ltd.	MKP62	225K; 275V; T110	EN 60384-14	VDE 40000358
-Alternative	Okaya Electric Industries Co., Ltd.	LE225	2,2μF; 275V;T100	EN 60384-14	ENEC:SE/0 142-1D
-Alternative	Various	Various	2,2μF; AC275V; T100; X2	IEC 60384-14; EN 132400	S or other EU certification marks
-X Capacitor 3#	Xiamen Faratronic Co., Ltd.	MKP62	275VAC; 104M; T110	EN 132400; IEC 60384-14	VDE 40000358
-Alternative	Anhui Xinyang Electronics Co., Ltd.	MKP	0,1μF; AC275V; T100	IEC 60384-14; EN 132400	VDE 40024537
-Alternative	OKAYA Electric Industries Co., Ltd.	LE104	275VAC; 0,1μF; T100	IEC 60384-14; EN 132400	SEMKO SE/0142-1D
-Alternative	Various	Various	0,1μF; AC275V; T100 or above	IEC 60384-14; EN 132400	S or other EU certification marks
-PTC Resistance	Hubei Huagong Gaoli Electronic Co., Ltd.	MZ8I EB500K	R:50Ω±10%	EN 60335-2-40	Tested with appliance
-Alternative	Dandong Guotong Electronic Components Co., Ltd	MZ9250RM	R:50Ω±10%	EN 60335-2-40	tested with appliance
-Opto- coupler	Toshiba Corporation	TLP781	Vceo:80V; If:60mA; Ic:50mA	EN 60747-5-2	VDE 40021173

-High Frequency Transformer	DONGGUAN DAZHONG ELECTRONIC CO., LTD	ECO2020	85~265V; 132KH; 15V; 8V; Pri.R:2-1:750mΩ±20%; 3-2:560mΩ±20%; 6-5:80mΩ±20%; Sec.R:10-11:23mΩ±20%; 11-12:33mΩ±20%; L-Pri.:0,676mH; Lk-Pri:20uH; 15uH; Class B	EN 60335-2-40	Tested with appliance
-Inductance	XINJI ELECTRONICS COMPONENT(HANG ZHOU) CO. LTD	10uH	10uH; 1,5A	EN 60335-2-40	Tested with appliance
-Alternative	Shenzhen Yamaxi Electronic Co., Ltd.	10uH	10uH; 1,5A	EN 60335-2-40	Tested with appliance
-Alternative	Dongguan Dazhong Electronic Co., Ltd.	10uH	10uH; 1,5A	EN 60335-2-40	Tested with appliance
-PCB material	CHANG CHUN PLASTICS CO LTD	CCP-508U	CEM-1; 94V-0; 1,6mm	EN 60335-2-40; UL 94	Tested with appliance & UL E108591
-Alternative	PACIFIC INSULATING MATERIAL CO LTD	P-121	CEM-1; 94V-0; 1,6mm	EN 60335-2-40; UL 94	Tested with appliance & UL E115974
-Alternative	GUANGDONG SHENGYI SCI TECH CO LTD	S3116	CEM-1; 94V-0; 1,6mm	EN 60335-2-40; UL 94	Tested with appliance & UL E109769
-Alternative	Various	Various	CEM-3 or FR-4; 94V-0; CTI 3; thickness: 1,6±0,4mm	UL 94; IEC 60707	S, ETL, UL or other EU certification marks
-IPM module	Sanken Electric Co., Ltd.	SLA6868M	VDSS: 500V; VCC:20V; I:2,5A; IP: 5A; PD: 32,8W	EN 60335-2-40	Tested with appliance
-Alternative	MITSUBISHI ELECTRIC CORP SEMICONDUCTOR DIV	PS21997-AST	Operation:600V; 30A; Fsw=20KHz; Viso=2500V	EN 60335-2-40	Tested with appliance
-Relay 1#	Xiamen Hongfa Electroacoustics Co., Ltd.	JQX-102F	AC250 V; 20 A; T85; 100000cycles	EN 61810-1	VDE 40024142
-Alternative	OMRON Relay & Devices Corporation	G4A-1A-E-CN	250VAC; 20A; T85; 100000 cycles	EN 61810-1	TÜV Rheinland R50214482
-Alternative	OMRON Corporation	G4A-1A-E-CN	250VAC; 20A; T50; 100000 cycles	EN 61810-1	VDE 107293
-Alternative	Dongguan Sanyou Electrical Appliances Co., Ltd.	SFK-112DM	AC250 V; 20A; T85	EN 61810-1; EN 60255-23	VDE 40007481

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-Alternative	Song Chuan Precision Co., Ltd.	891WP-1A-C	AC250 V; 25A; T85; 100000cycles	EN 61810-1 EN 61810-5 EN 60255-23	TÜV Rheinland R50003966
-Alternative	Tyco Electronics (Shenzhen) Co., Ltd.	EF00-1A2-D012-F	AC250 V; 20A; T85; 100000cycles	EN 61810-1	TÜV Rheinland R50117320
-Relay 2#	Xiamen Hongfa Electroacoustics Co., Ltd.	JZC-32F	250VAC; 5A; T70; 100000 cycles	EN 61810-1	VDE 40012204
-Alternative	Dongguan Sanyou Electrical Appliances Co., Ltd.	SJ-S-112DM	250VAC; 5A; T85; 100000 cycles	EN 61810-1 EN 60255-23	VDE 40002146
-Alternative	Song Chuan Precision Co., Ltd.	307-1AH-C	250VAC; 5A; T85; 10000 cycles	EN 61810-1 IEC 61810-1	TÜV Rheinland R 50128391
-Alternative	Tyco Electronics (Shenzhen) Co., Ltd.	OJE-SS-112DM	250VAC; 5A; T70; 100000 cycles	EN 61810-1 IEC 61810-1	TÜV Rheinland R50139166
-Alternative	Tyco Electronics (Shenzhen) Co., Ltd.	OJT-SH-112DM	250VAC; 5A; T70; 100000 cycles	EN 61810-1 EN 60255-23	VDE 40007630
-Relay 3#	Xiamen Hongfa Electroacoustics Co., Ltd.	HF32F-G	250VAC; 10A; T85; 100000 cycles	EN 61810-1	VDE 40012204
-Alternative	Dongguan Sanyou Electrical Appliances Co., Ltd.	SJ-S-112DM	250VAC; 10A; T85; 100000 cycles	EN 61810-1	TÜV Rheinland R50142420
-Alternative	Song Chuan Precision Co. Ltd.	835-1A-B-C	250VAC; 10A; T85; 50000 cycles	EN 61810-1; EN 60255-23	VDE 40010643
-Alternative	Tyco Electronics (Shenzhen) Co., Ltd.	OJE-SS-112HMF	250VAC; 10A; T70; 100000 cycles	EN 61810-1	TÜV Rheinland R50139166
-Alternative	Dongguan Churod Electronics Co., Ltd.	A1-S-112HAF	250VAC; 10A; T85	EN 61810-1	TÜV Rheinland R50174892
-Rectifier	Shanghai Microsemi Semiconductor Co., Ltd.	GBJ25J	600V; 25A	EN 60335-2-40	Tested with appliance
-Alternative	SHINDENGEN ELECTRIC MFG CO LTD	D25XB 60	600V; 25A	EN 60335-2-40	Tested with appliance

28.1	TABLE: Threaded part torque test			P
Threaded part identification	Diameter of thread (mm)	Column number (I, II, or III)	Applied torque (Nm)	
Earthed screw	4,0	II	1,2	

29.1	TABLE: Clearances						P
	Overvoltage category....:	II					—
		Type of insulation:					
Rated impulse voltage (V):	Min. cl (mm)	Basic	Functional	Supplementary	Reinforced	Verdict / Remark	
330	0,5	---	---	---	---	N/A	
500	0,5	---	---	---	---	N/A	
800	0,5	---	---	---	---	N/A	
1 500	0,5	---	---	---	---	N/A	
2 500	<u>1,5</u>	3,5	4,0	>5,0	---	Pass	
4 000	<u>3,0</u>	---	---	---	>10,0	Pass	
6 000	5,5	---	---	---	---	N/A	
8 000	8,0	---	---	---	---	N/A	
10 000	11,0	---	---	---	---	N/A	

29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										P
Working voltage (V)	Creepage distance (mm) Pollution degree										
	1	2			3			Type of insulation			
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb	B ^{*)}	S ^{*)}	R ^{*)}	Verdict
≤50	0,2	0,6	0,9	1,2	1,5	1,7	1,9		—	—	N/A
≤50	0,2	0,6	0,9	1,2	1,5	1,7	1,9	—		—	N/A
≤50	0,4	1,2	1,8	2,4	3,0	3,4	3,8	—	—		N/A
>50 and ≤125	0,3	0,8	1,1	1,5	1,9	2,1	2,4		—	—	N/A
>50 and ≤125	0,3	0,8	1,1	1,5	1,9	2,1	2,4	—		—	N/A
>50 and ≤125	0,6	1,6	2,2	3,0	3,8	4,2	4,8	—	—		N/A
>125 and ≤250	0,6	1,3	1,8	<u>2,5</u>	3,2	3,6	4,0	3,5	—	—	P
>125 and ≤250	0,6	1,3	1,8	<u>2,5</u>	3,2	3,6	4,0	—	>5,0	—	P
>125 and ≤250	1,2	2,6	3,6	<u>5,0</u>	6,4	7,2	8,0	—	—	>15	P
>250 and ≤400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	—	—	—	N/A
>250 and ≤400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	—		—	N/A
>250 and ≤400	2,0	4,0	5,6	8,0	10,0	11,2	12,6	—	—		N/A
>400 and ≤500	1,3	2,5	3,6	5,0	6,3	7,1	16,0	—	—		N/A
>400 and ≤500	1,3	2,5	3,6	5,0	6,3	7,1	8,0	—		—	N/A
>400 and ≤500	2,6	5,0	7,2	10,0	12,6	14,2	16,0	—	—		N/A
>500 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0		—	—	N/A

>500 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	—	—	—	N/A
>500 and ≤800	3,6	6,4	9,0	12,6	16,0	18,0	20,0	—	—	—	N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	—	—	—	N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	—	—	—	N/A
>800 and ≤1000	4,8	8,0	11,2	16,0	20,0	22,0	25,0	—	—	—	N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	—	—	—	N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	—	—	—	N/A
>1000 and ≤1250	6,4	10,0	14,2	20,0	25,0	28,0	32,0	—	—	—	N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	—	—	—	N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	—	—	—	N/A
>1250 and ≤1600	8,4	12,6	18,0	25,0	32,0	36,0	40,0	—	—	—	N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	—	—	—	N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	—	—	—	N/A
>1600 and ≤2000	11,2	16,0	22,0	32,0	40,0	44,0	50,0	—	—	—	N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	—	—	—	N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	—	—	—	N/A
>2000 and ≤2500	15,0	20,0	28,0	40,0	50,0	56,0	64,0	—	—	—	N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	—	—	—	N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	—	—	—	N/A
>2500 and ≤3200	20,0	25,0	36,0	50,0	64,0	72,0	80,0	—	—	—	N/A
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	—	—	—	N/A
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	—	—	—	N/A
>3200 and ≤4000	25,0	32,0	44,0	64,0	80,0	90,0	100,0	—	—	—	N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	—	—	—	N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	—	—	—	N/A
>4000 and ≤5000	32,0	40,0	56,0	80,0	100,0	112,0	126,0	—	—	—	N/A
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	—	—	—	N/A
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	—	—	—	N/A
>5000 and ≤6300	40,0	50,0	72,0	100,0	126,0	142,0	160,0	—	—	—	N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	—	—	—	N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	—	—	—	N/A
>6300 and ≤8000	50,0	64,0	90,0	126,0	160,0	180,0	200,0	—	—	—	N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	—	—	—	N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	—	—	—	N/A
>8000 and ≤10000	64,0	80,0	112,0	160,0	200,0	220,0	250,0	—	—	—	N/A
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	—	—	—	N/A

>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	—	—	—	N/A
>10000 and ≤12500	80,0	100,0	142,0	200,0	250,0	280,0	320,0	—	—	—	N/A
*), B=Basic, S=Supplementary and R=Reinforced;											

29.2	TABLE: Creepage distances, functional insulation								P
Working voltage (V)	Creepage distance (mm) Pollution degree								
	1	2			3				
		Material group			Material group				
		I	II	IIIa/IIIb	I	II	IIIa/IIIb	Verdict / Remark	
≤50	0,2	0,6	0,8	1,1	1,4	1,6	1,8	N/A	
>50 and ≤125	0,3	0,7	1,0	1,4	1,8	2,0	2,2	N/A	
>125 and ≤250	0,4	1,0	1,4	2,0	2,5	2,8	3,2	P / 4,0mm, L & N pole on PCB	
>250 and ≤400	0,8	1,6	2,2	3,2	4,0	4,5	5,0	N/A	
>400 and ≤500	1,0	2,0	2,8	4,0	5,0	5,6	6,3	N/A	
>500 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	N/A	
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	N/A	
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	N/A	
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	N/A	
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	N/A	
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	N/A	
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	N/A	
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	N/A	
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	N/A	
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	N/A	
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	N/A	
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	N/A	
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	N/A	

TABLE 30		RESISTANCE TO HEAT, FIRE AND TRACKING (appended table)												P
Component	Manufacturer	Type	Ball pressure test				Tracking test [CTI/PTI]	Glow wire test					Needle-flame test	Verdict
			75℃	cl. 11 +40℃	125℃	cl. 19 +25℃		GWT 550℃	GWT 650℃	GWT 750℃	GWFI 850℃	GWIT		
Terminal block	Honglian	----	----	----	0,8	----	----	----	----	No flame	Ti:12,1s; Te:32,0s	----	----	P
Terminal block	Kaidu	----	----	----	1,2	----	----	----	----	No flame	Ti:1,4s; Te: 31,4s	----	----	P
Enclosure	----	----	1,3	----	----	----	----	Ti:1,4s; Te: 31,7s	----	----	----	----	----	P
PCB	----	----	----	----	1,0	----	----	----	----	----	----	----	----	P

Photo documents:

Following photos are for all indoor units except especial note:



Front view for **GWH24RD-K3DNA3C**



Front view for **GWH24RD-K3DNA2C**



Side view for **GWH24RD-K3DNA3C**



Side view for **GWH24RD-K3DNA3C**

Remark: the side view for model **GWH24RD-K3DNA2C** is the same as **GWH24RD-K3DNA3C** except the front cover.

TRF No.: IECEN60335_2_40B

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

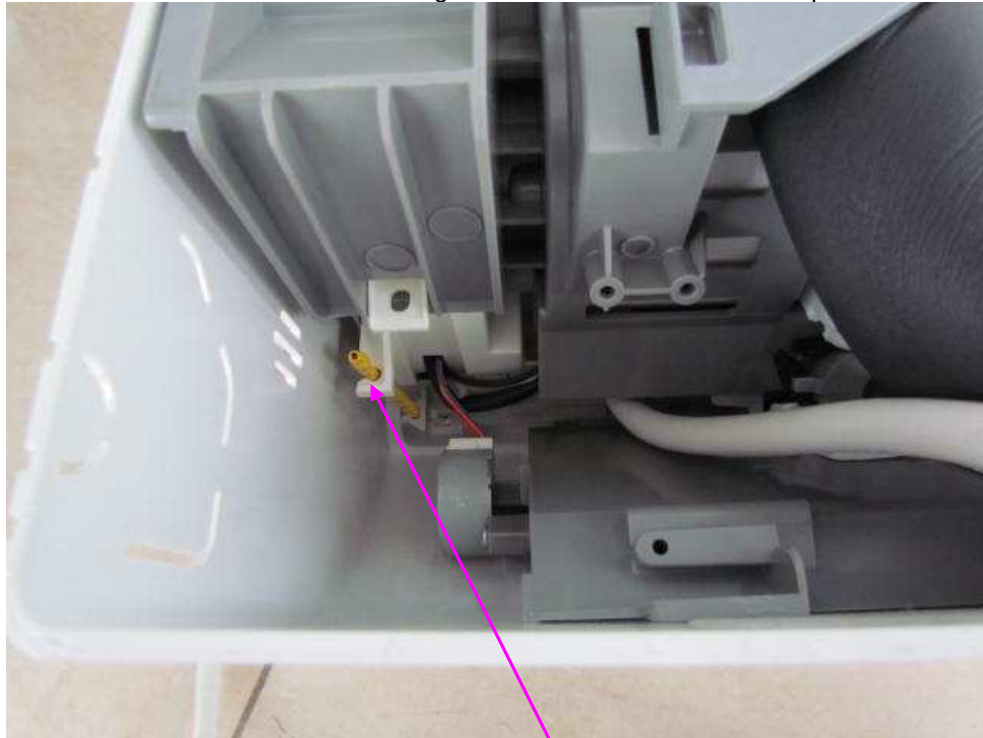
Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China
Tel: (86-20) 8213 9688 Fax: (86-20) 32057538



Top view



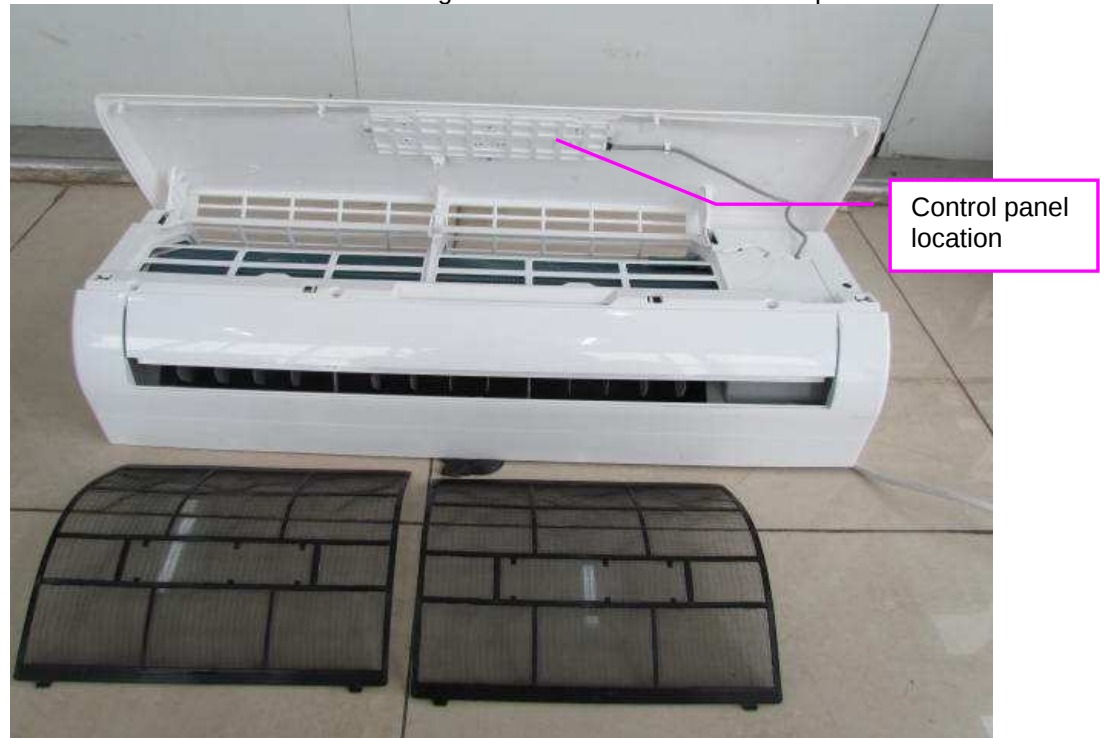
Back view



Room temperature sensor location



Opened front cover



Removed air filter



Terminal block cover



Terminal block view



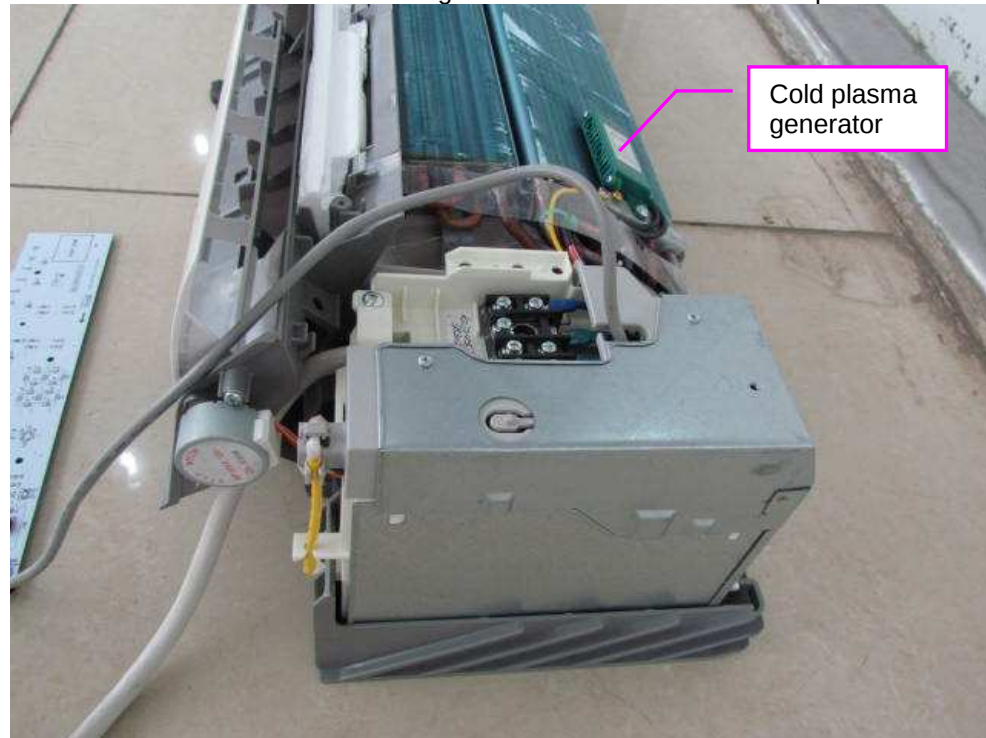
Removed front cover



Earthing terminal



Earthing terminal on evaporator



Cold plasma generator

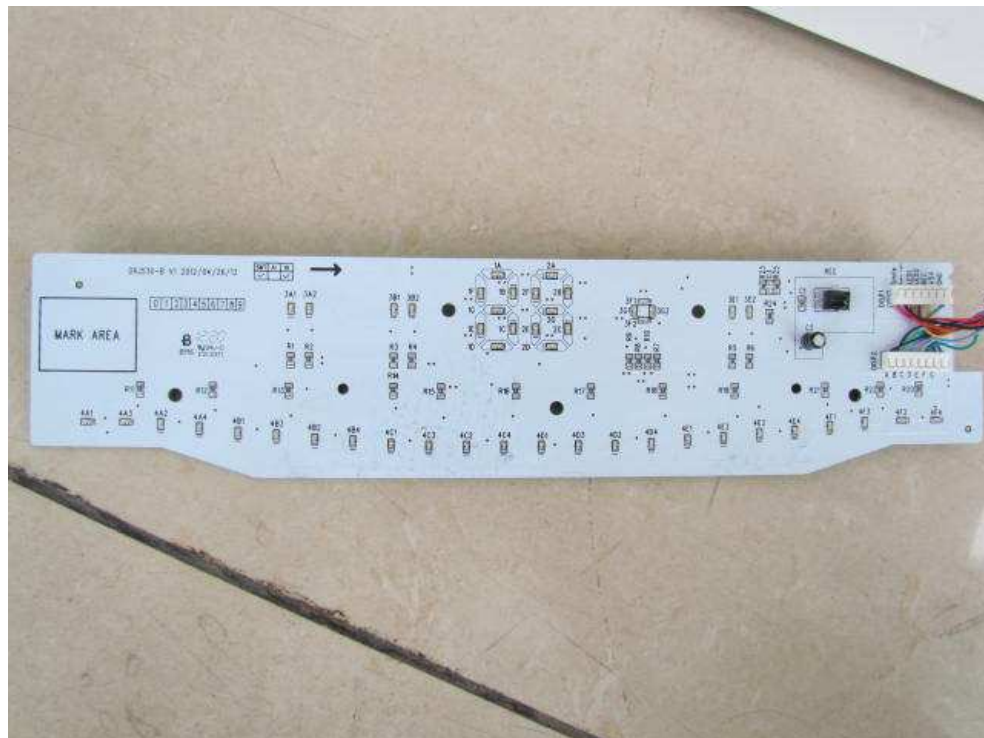
Electric external view



Front view of main board



Back view of main board



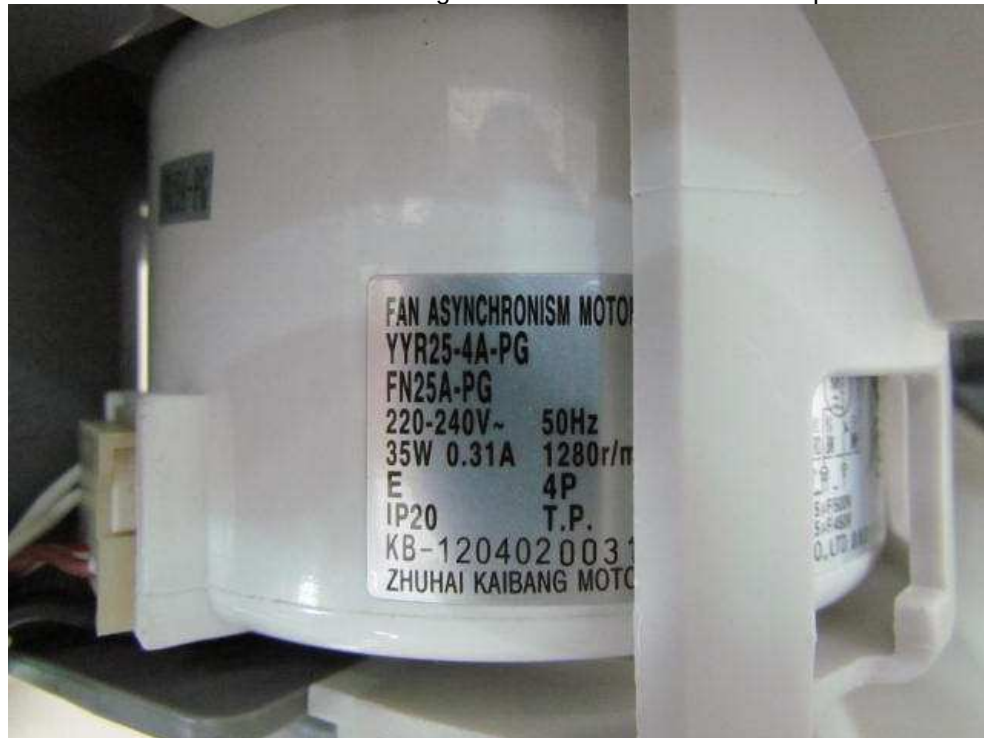
Front view of display PCB



Back view of display PCB



Anchorage of power supply cord



Indoor fan motor



Cold plasma generator view

Following photos are for the new models:



Front panel view for model GWH24RD-K3DNA6C



Front panel view for model GWH24RD-K3DNA8C



Front panel view for model GWH24RD-K3DBA5E



Front panel view for model GWH24RD-K3DBE1E



Front panel view for model GWH24RD-K3DNA5C



Front panel view for model GWH24RD-K3DBA3E

The following photos are for the outdoor unit:



Front view



Side view



Side view



Back view



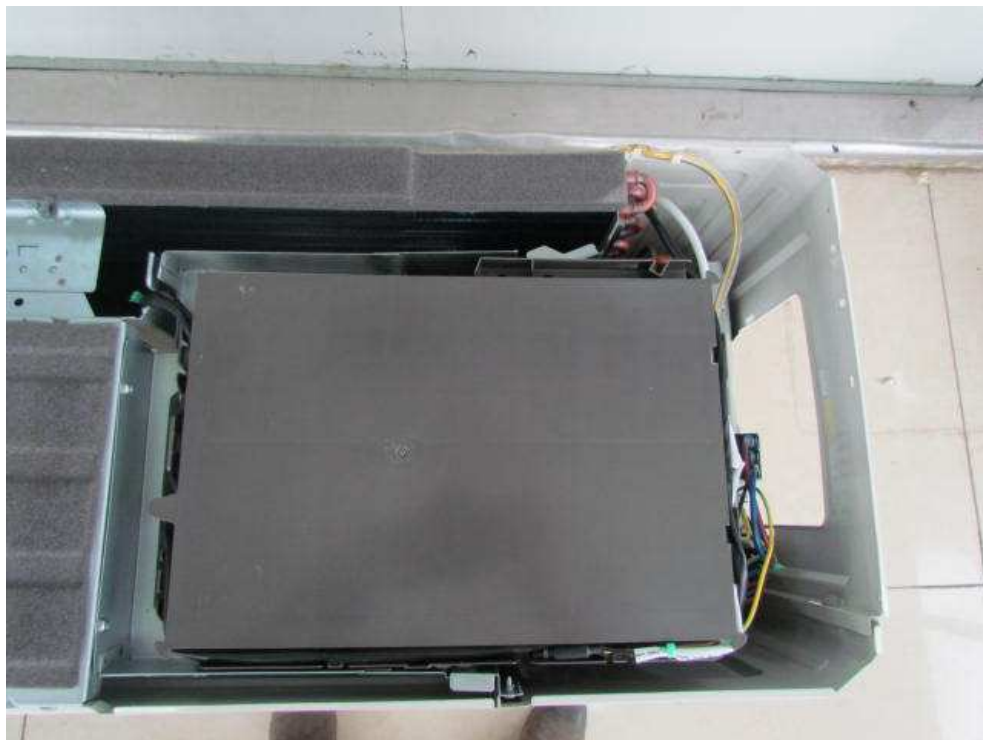
Top view



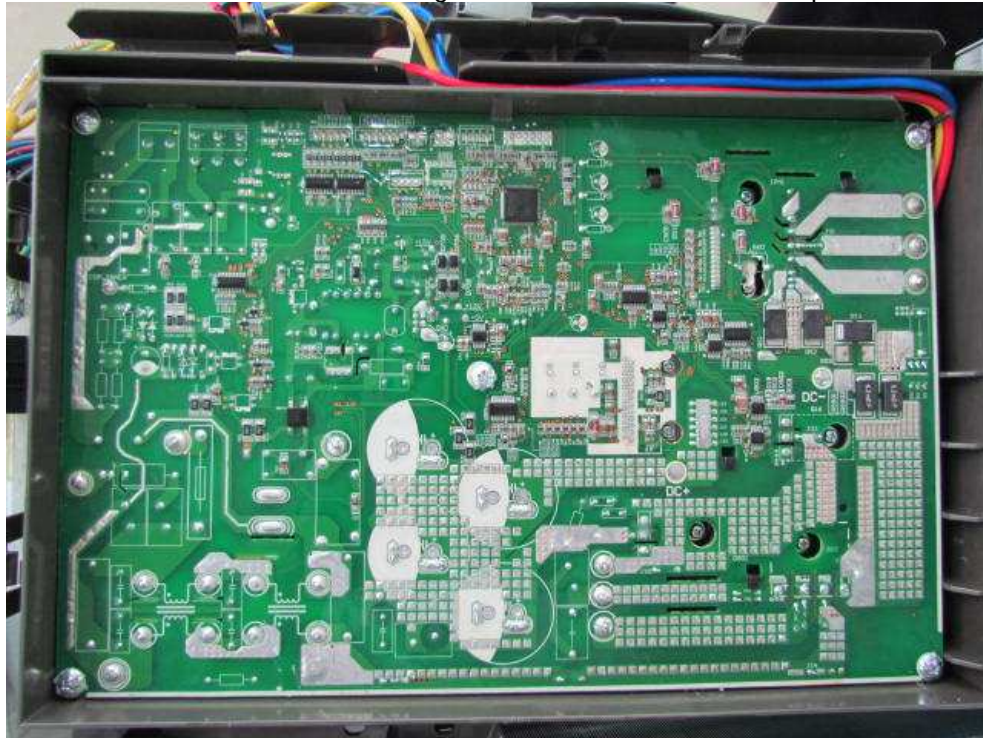
Earthling terminal, terminal block and cord anchorage view



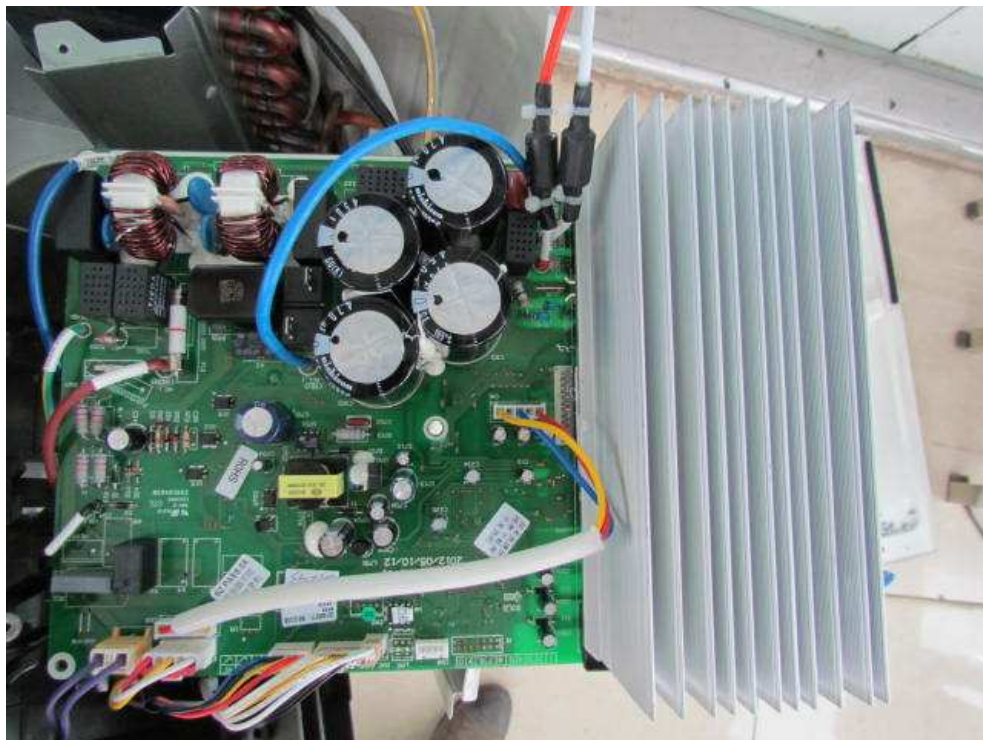
Removed front cover



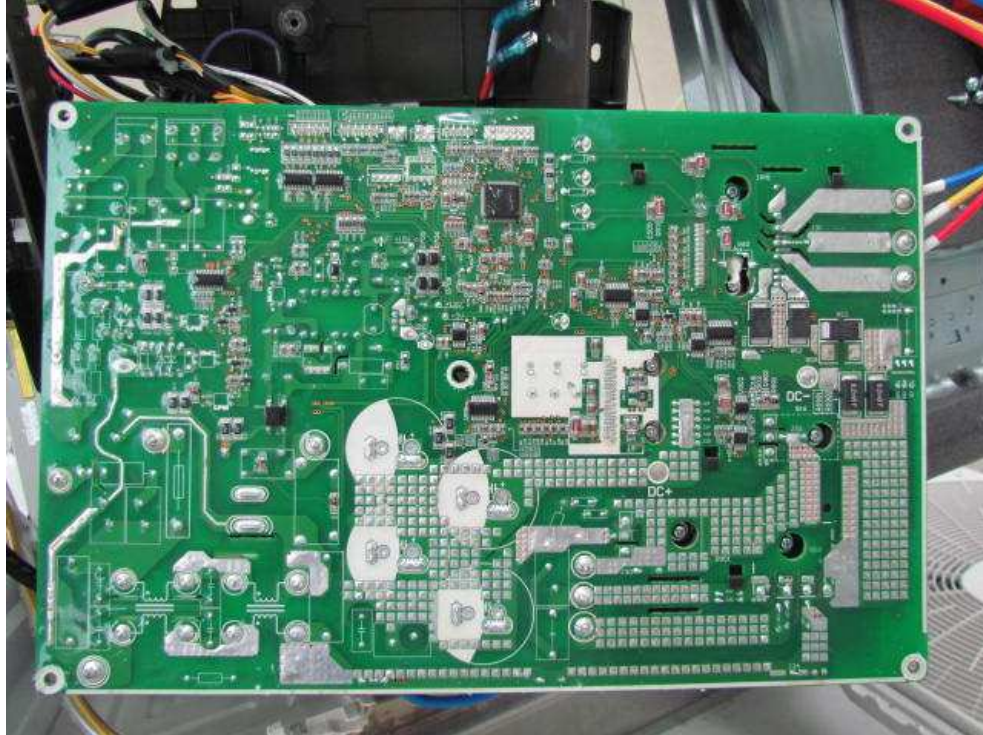
External view of electric box



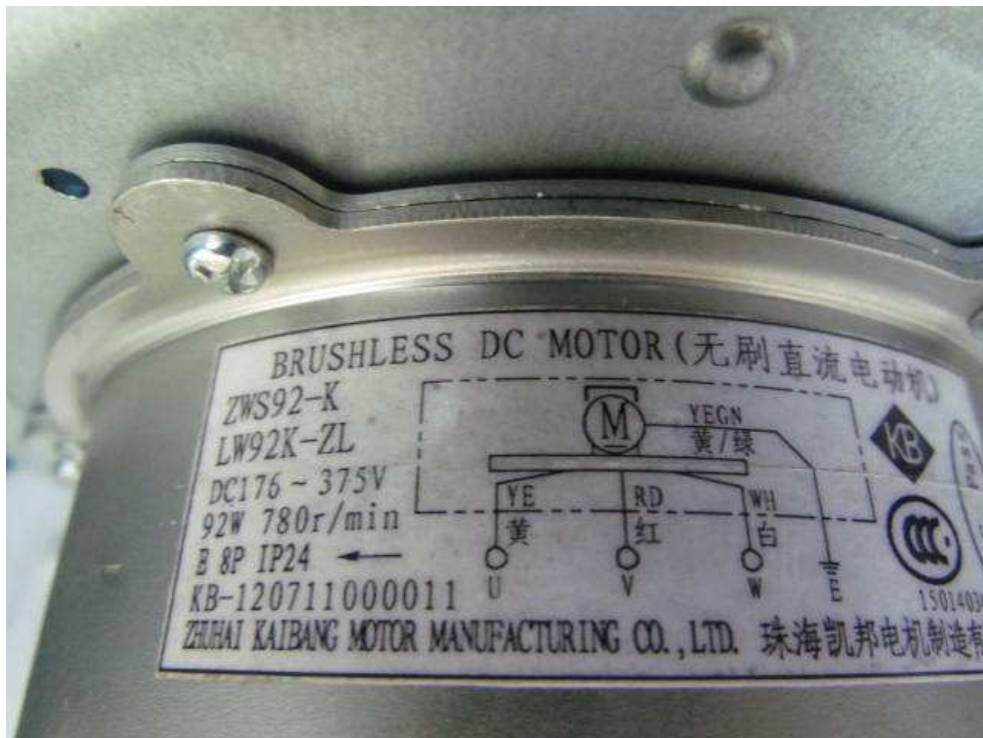
Internal view of electric box



Front view of outdoor main board



Back view of outdoor main board



Outdoor fan motor



Reactor view



Compressor view



Earthing terminal block on compressor



Chassis's electric heater view only for model GWH24RD-K3DBA5E and GWH24RD-K3DBA3E

AMENDMENT 2:2006 TO IEC 60335-1:2001
AMENDMENT 2:2006 TO EN 60335-1:2002

Clause	Requirement – Test	Result	Verdict
5	GENERAL CONDITIONS FOR THE TESTS		---
5.3	(Addition:) The test of 19.14 is carried out before the tests of 19.11 (IEC/EN 60335-1/A2:2006)		N/A

7	MARKING AND INSTRUCTIONS		---
7.5	(Replacement:) the power input is related to the arithmetic mean value of the rated voltage range (IEC/EN 60335-1/A2:2006)		P
7.6	(Replacement:) -symbol IEC 60417-5032-1 (DB:2002-10) -symbol IEC 60417-5032-2 (DB:2002-10) (IEC/EN 60335-1/A2:2006)	3N ~	N/A
	(Replacement:) -symbol ISO 7000-1641 (DB:2004-01) (IEC/EN 60335-1/A2:2006)		N/A
	(Addition:) -symbol ISO 7000-0790 (DB:2004-01) (IEC/EN 60335-1/A2:2006)		N/A
7.12	(Addition:) This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety (IEC/EN 60335-1/A2:2006)		P
	(Addition:) Children should be supervised to ensure that they do not play with the appliance (IEC/EN 60335-1/A2:2006)		P

8	PROTECTION AGAINST ACCESS TO LIVE PARTS		---
8.1.1	Renumber the existing note as Note 1. Add the following note after the third		P

Clause	Requirement – Test	Result	Verdict
	paragraph of the test specification: NOTE 2 "Without appreciable force" is considered to be a force not exceeding 1 N. (IEC/EN 60335-1/A2:2006)		
8.1.2	Renumber the existing note as Note 1. Add the following note after the third paragraph of the test specification: NOTE 2 "Without appreciable force" is considered to be a force not exceeding 1 N. (IEC/EN 60335-1/A2:2006)		P
8.1.3	Add the following note after the first paragraph of the test specification: NOTE 1 "Without appreciable force" is considered to be a force not exceeding 1 N. Renumber the existing note as Note 2. (IEC/EN 60335-1/A2:2006)		N/A
8.1.4	Accessible part not considered live if:		---
	(Addition:) – for voltages having a peak value over 15 kV, the energy in the discharge shall not exceed 350 mJ.(IEC/EN 60335-1/A2:2006)		N/A
	(Replace the third sentence of the second paragraph of the test specification by the following:) The quantity of electricity and energy in the discharge is measured using a resistor having anominal non-inductive resistance of 2 000 Ω (IEC/EN 60335-1/A2:2006)		N/A
8.2	(Replacement) Compliance is checked by inspection and by applying test probe B of IEC 61032 in accordance with the conditions specified in 8.1.1.(IEC/EN 60335-1/A2:2006)		P

10	POWER INPUT AND CURRENT		---
10.1	(Addition:) The permissible deviations apply for both limits of the range for appliances marked with a rated voltage range having limits differing by more than 10 % of the arithmetic mean value of the range. (IEC/EN 60335-1/A2:2006)		N/A
	(Addition:) The test is carried out at both the upper and lower limits of the ranges for appliances marked with one or more rated voltage ranges,		N/A

Clause	Requirement – Test	Result	Verdict
	unless (IEC/EN 60335-1/A2:2006)		
	(Addition:) the marking of the rated power input is related to the arithmetic mean value of the relevant voltage range, in which case the test is carried out at a voltage equal to the arithmetic mean value of that range (IEC/EN 60335-1/A2:2006)		P
10.2	(Addition:) The permissible deviations apply for both limits of the range for appliances marked with a rated voltage range having limits differing by more than 10 % of the arithmetic mean value of the range. (IEC/EN 60335-1/A2:2006)		N/A
	(Addition:) The test is carried out at both the upper and lower limits of the ranges for appliances marked with one or more rated voltage ranges, unless (IEC/EN 60335-1/A2:2006)		N/A
	(Addition:) the marking of the rated current is related to the arithmetic mean value of the relevant voltage range, in which case the test is carried out at a voltage equal to the arithmetic mean value of that range (IEC/EN 60335-1/A2:2006)		N/A

11	HEATING		---
	(Replacement:) Table 3 - Maximum normal temperature rises replace the terms “class A, class E, class B, class F and class H” by the terms “class 105, class 120, class 130, class 155 and class 180” (IEC/EN 60335-1/A2:2006)		N/A
	(Replacement:) Rubber, polychloroprene or polyvinyl chloride insulation of internal and external wiring, including supply cords: (IEC/EN 60335-1/A2:2006)		N/A
	- without temperature rating or with a temperature rating not exceeding 75°C, limit:50K (IEC/EN 60335-1/A2:2006)		N/A
	- with temperature rating (T) where T exceeds 75°C, limit: T-25 (IEC/EN 60335-1/A2:2006)		N/A
	Add the following paragraph to footnote: The temperature rise limit of windings in transformers and inductors mounted on printed circuit boards is equal to the thermal		N/A

Clause	Requirement – Test	Result	Verdict
	class of the winding insulation reduced by 25 K provided the largest dimension of the winding does not exceed 5 mm in cross section or length. (IEC/EN 60335-1/A2:2006)		
	Add the following footnote:		---
	IEC 60245 Types 53, 57 and 87 supply cords have a T rating of 60 °C; (IEC/EN 60335-1/A2:2006)		N/A
	IEC 60227 Types 52 and 53 supply cords have a T rating of 70 °C; (IEC/EN 60335-1/A2:2006)		N/A
	EC 60227 Types 56 and 57 supply cords have a T rating of 90 °C. (IEC/EN 60335-1/A2:2006)		N/A

14	TRANSIENT OVERVOLTAGES		---
	(Replacement: Impulse test voltage has a no-load waveshape corresponding to the 1,2/50 µs standard impulse specified in IEC 61180-1, supplied from a generator having a conventional impedance not exceeding 42 ohms. (IEC/EN 60335-1/A2:2006)		N/A
	Impulse test voltage is applied three times for each polarity with intervals of at least 1 s (IEC/EN 60335-1/A2:2006)		N/A

16	LEAKAGE CURRENT AND ELECTRIC STRENGTH		---
16.3	(Replacement: Immediately after the test of 16.2, the insulation is subjected to a voltage having a frequency of 50 Hz or 60Hz for 1 min in according with IEC 61180-1. (IEC/EN 60335-1/A2:2006)		P

19	ABNORMAL OPERATION		---
	This clause of part 1 is replaced by part 2.		N/A

22	CONSTRUCTION		---
22.2	(Replacement: Single-pole switches and single-pole protective devices that disconnect heating elements from the supply mains in single-phase, permanently connected class 0I appliances and class I appliances shall be connected to the phase		N/A

Clause	Requirement – Test	Result	Verdict
	conductor. (IEC/EN 60335-1/A2:2006)		
22.5	(Replacement:) No risk of electric shock from a capacitor having a rated capacitance exceeding 0.1uF when touching the pins of the plug, the appliance being disconnected from the supply at the instant of voltage peak. (IEC/EN 60335-1/A2:2006)		N/A
	The voltage shall not exceed 34 V		N/A
22.21	(Addition:) This requirement does not apply to magnesium oxide and mineral ceramic fibres used for the electrical insulation of heating elements (IEC/EN 60335-1/A2:2006)		N/A
22.32	(Addition:) Insulating material in which heating conductors are embedded is considered to be basic insulation and not reinforced insulation. (IEC/EN 60335-1/A2:2006)		N/A
22.35	(Replacement:) For constructions other than those of class III, handles, levers and knobs that are held or actuated in normal use shall not become live in the event of a failure of basic insulation (IEC/EN 60335-1/A2:2006)		N/A
	If these handles, levers and knobs are of metal and if their shafts or fixings are likely to become live in the event of a failure of basic insulation, they shall be adequately covered by insulating material or their accessible parts shall be separated from their shafts or fixings by supplementary insulation. (IEC/EN 60335-1/A2:2006)		N/A
22.40	(Addition:) Unless the appliance can operate continuously, automatically or remotely without giving rise to a hazard, appliances for remote operation shall be fitted with a switch for stopping the operation of the appliance. The actuating member of this switch shall be easily visible and accessible. (IEC/EN 60335-1/A2:2006)		N/A
22.44	(Replacement:) Appliances shall not have an enclosure that is shaped or decorated like a toy. (IEC/EN 60335-1/A2:2006)		P

Clause	Requirement – Test	Result	Verdict
22.49	(Addition:) For remote operation, duration of operation set before the appliance can be started unless the appliance switches off automatically at the end of a cycle or it can operate continuously without giving rise to a hazard. (IEC/EN 60335-1/A2:2006)		N/A
22.50	(Addition:) Controls incorporated in the appliance, if any, shall take priority over controls actuated by remote operation. (IEC/EN 60335-1/A2:2006)		N/A
22.51	(Addition) A control on the appliance shall be manually adjusted to the setting for remote operation before the appliance can be operated in this mode. There shall be a visual indication on the appliance showing that the appliance is adjusted for remote operation. The manual setting and the visual indication of the remote mode are not necessary on appliances that can - operate continuously, or - operate automatically, or - be operated remotely, without giving rise to a hazard. (IEC/EN 60335-1/A2:2006)		N/A
22.52	(Addition :) Socket-outlets on appliances accessible to the user shall be in accordance with the socket-outlet system used in the country in which the appliance is sold. (IEC/EN 60335-1/A2:2006)		N/A

24	COMPONENTS		---
24.1	(Replacement:) Components not tested and found to comply with relevant IEC standard for the number of cycles specified are tested in accordance with 24.1.1 to 24.1.9 (IEC/EN 60335-1/A2:2006)	Replaced by IEC/EN 60335-1/A14: 2010, See appendix	---
	(Addition:) Lampholders and starterholders that have not been previously tested and found to comply with the relevant IEC standard are tested as a part of the appliance and shall additionally comply with the gauging and interchangeability requirements of the relevant IEC standard under the conditions occurring in the appliance. (IEC/EN 60335-1/A2:2006)	Replaced by IEC/EN 60335-1/A14: 2010, See appendix	---

Clause	Requirement – Test	Result	Verdict
24.1.7	(Addition:) If the remote operation of the appliance is via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is IEC 62151 (IEC/EN 60335-1/A2:2006)	Replaced by IEC/EN 60335-1/A13: 2008, See appendix	---
24.1.8	(Addition:) The relevant standard for thermal links is IEC 60691. Thermal links that do not comply with IEC 60691 are considered to be an intentionally weak part for the purposes of Clause 19. (IEC/EN 60335-1/A2:2006)		N/A
24.1.9	(Addition:) Relays, other than motor starting relays, are tested as part of the appliance. However, they are also tested in accordance with Clause 17 of IEC 60730-1 under the maximum load conditions occurring in the appliance for at least the number of operations in 24.1.4 selected according to the relay function in the appliance. (IEC/EN 60335-1/A2:2006)		P

25	SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS		---
25.7	(Replacement:) Supply cords shall be one of the following types: (IEC/EN 60335-1/A2)		---
	– Rubber sheathed (code designation 60245 IEC 53) (IEC/EN 60335-1/A2:2006)		N/A
	– Polychloroprene sheathed (code designation 60245 IEC 57) (IEC/EN 60335-1/A2:2006)	H05VV-F	P
	– Cross-linked polyvinyl chloride sheathed (code designation 60245 IEC 87) (IEC/EN 60335-1/A2:2006)		N/A
	– Polyvinyl chloride sheathed. These cords shall not be used if they are likely to touch metal parts having a temperature rise exceeding 75 K during the test of Clause 11. Their properties shall be at least those of (IEC/EN 60335-1/A2:2006)		---
	• light polyvinyl chloride sheathed cord (code designation 60227 IEC 52), for appliances having a mass not exceeding 3 kg; (IEC/EN 60335-1/A2: 2006)		N/A
	• ordinary polyvinyl chloride sheathed cord (code designation 60227 IEC 53), for other appliances; (IEC/EN 60335-1/A2:2006)		N/A
	– Heat resistant polyvinyl chloride sheathed.		---

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Clause	Requirement – Test	Result	Verdict
	These cords shall not be used for type X attachment other than specially prepared cords. Their properties shall be at least those of (IEC/EN 60335-1/A2:2006)		
	• heat-resistant light polyvinyl chloride sheathed cord (code designation 60227 IEC 56), for appliances having a mass not exceeding 3 kg; (IEC/EN 60335-1/A2:2006)		N/A
	• heat-resistant polyvinyl chloride sheathed cord (code designation 60227 IEC 57), for other appliances. (IEC/EN 60335-1/A2:2006)		N/A

26	TERMINALS FOR EXTERNAL CONDUCTORS		---
26.3	(Replacement:) Compliance checked by inspection and by the test of subclause 9.6 of IEC 60999-1, the torque applied being equal to two-thirds of the torque specified. Nominal diameter of thread (mm); screw category; torque (Nm) (IEC/EN 60335-1/A2:2006)		N/A
26.6	(Replacement:) Terminals for type X attachment and for connection to fixed wiring suitable for connection of conductors with required cross-sectional area according to table 13; rated current (A); nominal cross-sectional area (mm ²): In Table 13, replace the last two rows by the following: > 32 and ≤ 50 > 50 and ≤ 63 (IEC/EN 60335-1/A2:2006)	Measured current (Max.): 11,68A Nominal cross-sectional area (mm ²): 2,5	P

27	PROVISION FOR EARTHING		---
27.6	(Replacement:) The printed conductors of printed circuit boards not used to provide earthing continuity in hand held appliances (IEC/EN 60335-1/A2:2006)		N/A
	They may be used in other appliances if at least two tracks are used with independent soldering points and the appliance complies with requirements of 27.5 for each circuit (IEC/EN 60335-1/A2:2006)		N/A

28	SCREWS AND CONNECTIONS		---
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Clause	Requirement – Test	Result	Verdict
28.1	(Replacement:) Table 14 the penultimate row: > 4.7 and ≤ 5.3 Torque Nm: 0.8, 2.0, 1.0 (IEC/EN 60335-1/A2:2006)		N/A
28.3	(Replacement:) Thread-cutting (self-tapping) screws and thread roller screws only used for electrical connections if they generate a full form standard machine screw thread. (IEC/EN 60335-1/A2:2006)		N/A
	Such screws not used if they are likely to be operated by the user or installer. (IEC/EN 60335-1/A2:2006)		N/A
	Thread-cutting, thread rolling and space-threaded screws may be used in connections providing earthing continuity provided it is not necessary to disturb the connection: – in normal use, – during user maintenance, – when replacing a supply cord having a type X attachment, or – during installation. (IEC/EN 60335-1/A2:2006)		N/A
	At least two screws must be used for each connection providing earthing continuity unless the screw forms a thread having a length of at least half the diameter of the screw. (IEC/EN 60335-1/A2:2006)		N/A

29	CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION		---
	(Replacement:) For coatings used on printed circuits boards to protect the microenvironment (Type 1 coating) or to provide basic insulation (Type 2 coating), annex J applies (IEC/EN 60335-1/A2:2006)		N/A
	The microenvironment is pollution degree 1 under Type 1 coating (IEC/EN 60335-1/A2:2006)		N/A
	No creepage distance or clearance requirements under Type 2 coating (IEC/EN 60335-1/A2:2006)		N/A
29.1.1	(Replacement:) Clearances of basic insulation withstand the overvoltages, taking into account the rated		P

Clause	Requirement – Test	Result	Verdict
	impulse voltage, or cl. 14. (IEC/EN 60335-1/A2:2006)		

30	RESISTANCE TO HEAT AND FIRE		---
30.2	(Replacement:) Parts of non-metallic material resistant to ignition and spread of fire (IEC/EN 60335-1/A2:2006)		P
	This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance. (IEC/EN 60335-1/A2:2006)		P
	Compliance checked by test of 30.2.1 In addition, (IEC/EN 60335-1/A2:2006)		N/A
	– for attended appliances, 30.2.2 is applicable;		N/A
	– for unattended appliances, 30.2.3 is applicable.		P
	Appliances for remote operation, 30.2.3 is applicable (IEC/EN 60335-1/A2:2006)		N/A
	For based material of printed circuit boards, 30.2.4 is applicable (IEC/EN 60335-1/A2:2006)		P
	Tests carried out on parts of non-metallic material that have been removed from the appliance (IEC/EN 60335-1/A2:2006)		P
	When the glow-wire test is carried out, the parts are placed in the same orientation as they would be in normal use (IEC/EN 60335-1/A2:2006)		P
	These tests are not carried out on the insulation of wires (IEC/EN 60335-1/A2:2006)		P
30.2.1	(Replacement:) Glow-wire test of IEC 60695-2-11 at 550 °C, unless (IEC/EN 60335-1/A2:2006)		P
	the material is classified at least HB40 according to IEC 60695-11-10 (IEC/EN 60335-1/A2:2006)		N/A
	Parts for which the glow-wire test cannot be carried out meet the requirements in ISO9772 for category HBF material (IEC/EN 60335-1/A2:2006)		N/A
30.2.2	(Replacement:) Appliances operated while attended, parts of non-metallic supporting current-carrying		N/A

Clause	Requirement – Test	Result	Verdict
	connections and parts within a distance of 3mm subjected to the glow-wire test of IEC 60695-2-11 (IEC/EN 60335-1/A2:2006)		
	However, the glow-wire test is not carried out on parts of material classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least: (IEC/EN 60335-1/A2:2006)		N/A
	-750°C, for connections carrying a current exceeding 0,5A during normal operation		N/A
	-650°C, for other connections		N/A
	If the glow-wire flammability index is not available for a sample with a thickness within $\pm 0,1$ mm of the relevant part, then the test sample shall have a thickness equal to the nearest preferred value specified in IEC 60695-2-12 that is no thicker than the relevant part. NOTE 1 The preferred values in IEC 60695-2-12 are 0,75 mm $\pm 0,1$ mm, 1,5 mm $\pm 0,1$ mm and 3,0 mm $\pm 0,2$ mm. (IEC/EN 60335-1/A2:2006)		N/A
	Where a non-metallic material is within 3 mm of a current carrying connection, but is shielded from the connection by a different material, the glow-wire test of IEC 60695-2-11 is carried out at the relevant temperature with the tip of the glow-wire applied to the interposed shielding Material with the shielded material in place and not directly to the shielded material. (IEC/EN 60335-1/A2:2006)		N/A
	-750°C, for connections carrying a current exceeding 0,5A during normal operation (IEC/EN 60335-1/A2:2006)		N/A
	-650°C, for other connections (IEC/EN 60335-1/A2:2006)		N/A
	Test not applicable to conditions as specified (IEC/EN 60335-1/A2:2006)		N/A
30.2.3	(Replacement:) Appliances operated while unattended, tested as specified in 30.2.3.1 and 30.2.3.2 (IEC/EN 60335-1/A2:2006)		P
	Test not applicable to conditions as specified (IEC/EN 60335-1/A2:2006)		P
30.2.3.1	(Replacement:)		P

Clause	Requirement – Test	Result	Verdict
	Parts of insulating material supporting connections carrying a current exceeding 0.2A during normal operation, and (IEC/EN 60335-1/A2:2006)		
	Parts of non-metallic material within a distance of 3 mm of such connections (IEC/EN 60335-1/A2:2006)		P
	However, the glow-wire test is not carried out on parts of material classified as having a glow-wire flammability index of at least 850 °C according to IEC 60695-2-12. (IEC/EN 60335-1/A2:2006)		N/A
	If the glow-wire flammability index is not available for a sample with a thickness within $\pm 0,1$ mm of the relevant part, then the test sample shall have a thickness equal to the nearest preferred value specified in IEC 60695-2-12 that is no thicker than the relevant part. (IEC/EN 60335-1/A2:2006)		N/A
	The glow-wire test is not carried out on small parts that comply with Annex E or classify as V-0 or V-1 according to IEC 60695-11-10, provided that the sample was not thicker than the relevant part of the appliance. (IEC/EN 60335-1/A2:2006)		P
	Where a non-metallic material is within 3 mm of a current carrying connection, but is shielded from the connection by a different material, the glow-wire test of IEC 60695-2-11 is carried out at the relevant temperature with the tip of the glow-wire applied to the interposed shielding material with the shielded material in place and not directly to the shielded material. (IEC/EN 60335-1/A2:2006)		N/A
30.2.3.2	(Replacement:) Parts of non-metallic material supporting current-carrying connections, and (IEC/EN 60335-1/A2:2006)		P
	parts of non-metallic material within a distance of 3mm, subjected to glow-wire test of IEC 60695-2-11. (IEC/EN 60335-1/A2:2006)		N/A
	Test not carried out on material having a glow-wire ignition temperature according to IEC 60695-2-13 of at least: (IEC/EN 60335-1/A2:2006)		N/A
	– 775 °C, for connections that carry a current exceeding 0,2 A during normal operation,		N/A
	– 675 °C, for other connections		N/A
	If the glow-wire ignition temperature is not available for a sample with a thickness within $\pm$		N/A

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Clause	Requirement – Test	Result	Verdict
	0,1 mm of the relevant part, then the test sample shall have a thickness equal to the nearest preferred value specified in IEC 60695-2-13 that is no thicker than the relevant part. NOTE 1 The preferred values in IEC 60695-2-13 are 0,75 mm $\pm$ 0,1 mm, 1,5 mm $\pm$ 0,1 mm and 3,0 mm $\pm$ 0,2 mm. (IEC/EN 60335-1/A2:2006)		
	Where an non-metallic material is within 3 mm of a current carrying connection, but is shielded from the connection by a different material, the glow-wire test of IEC 60695-2-11 is carried out at the relevant temperature with the tip of the glow-wire applied to the interposed shielding material with the shielded material in place and not directly to the shielded material. (IEC/EN 60335-1/A2:2006)		N/A
	Glow-wire test of IEC 60695-2-11, the temperature being: (IEC/EN 60335-1/A2:2006)		P
	-750°C, for connections carrying a current exceeding 0,2A during normal operation		P
	-650°C, for other connections		N/A
	Parts that during the test produce a flame persisting longer than 2 s, tested as specified (IEC/EN 60335-1/A2:2006)		N/A
	If a flame persists longer than 2 s during the test, parts above the connection, as specified, subjected to the needle-flame test of annex E, unless (IEC/EN 60335-1/A2:2006)		N/A
	the material is classified as V-0 or V-1 according to IEC 60695-11-10 provided that the sample was not thicker than the relevant part of the appliance. (IEC/EN 60335-1/A2:2006)		N/A
30.2.4	Base material of printed circuit boards subjected to needle-flame test of annex E (IEC/EN 60335-1/A2:2006)		P
	Test not applicable to conditions as specified (IEC/EN 60335-1/A2:2006)		N/A

32	RADIATION, TOXICITY AND SIMILAR HAZARDS		---
	(Replacement:) Appliance does not emit harmful radiation (IEC/EN 60335-1/A2:2006)		N/A

Clause	Requirement – Test	Result	Verdict
	(Replacement:) Appliance does not present a toxic or similar hazard (IEC/EN 60335-1/A2:2006)		N/A

E	ANNEX E (NORMATIVE) NEEDLE-FLAME TEST (IEC/EN 60335-1/A2:2006)		---
	Needle-flame test carried out in accordance with IEC 60695-11-5, with the following modifications:		P
7	Severities		---
	(Replacement:) The duration of application of the test flame is 30 s ± 1 s		P
9	Test procedure		---
9.1	(Modification:) The specimen so arranged that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1		P
9.2	(Modification:) The first paragraph does not apply		N/A
	(Addition:) If possible, the flame is applied at least 10 mm from a corner		P
9.3	(Replacement:) If the specimen does not withstand the test, the test may be repeated on two further specimens, both withstanding the test		N/A
11	Evaluation of test results		---
	(Addition:) The duration of burning not exceeding 30 s		N/A
	(Addition:) However, for printed circuit boards, the duration of burning not exceeding 15 s		P

J	ANNEX J (NORMATIVE) COATED PRINTED CIRCUIT BOARDS (IEC/EN 60335-1/A2:2006)		---
	Testing of protective coatings of printed circuit boards carried out in accordance with IEC 60664-3 with the following modifications:		N/A
5.7	Conditioning of the test specimens		---

Clause	Requirement – Test	Result	Verdict
	When production samples are used, three samples of the printed circuit board are tested		N/A
5.7.1	Cold		---
	The test is carried out at -25°C		N/A
5.7.3	Rapid change of temperature		---
	Severity 1 is specified		N/A
5.9	Additional tests		---
	This subclause is not applicable		N/A

O	ANNEX O (INFORMATIVE) SELECTION AND SEQUENCE OF THE TESTS OF CLAUSE 30 (IEC/EN 60335-1/A2:2006)		---
	Replace Figure 0.2 by the following		P

Q	ANNEX Q (INFORMATIVE) SEQUENCE OF TESTS FOR THE EVALUATION OF ELECTRONIC CIRCUITS (IEC/EN 60335-1/A2:2006)		---
	Replace “19.10” by “19.10 and 19.14” in two places.		P

Amendment 12:2006 to EN 60335-1:2002			
Clause	Requirement – Test	Result – Remark	Verdict
29.3	- an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3 and, (EN 60335-1/A12:2006)		N/A
	for accessible reinforced insulation consisting of a single layer, measurement in accordance with 29.3.Z1 (EN 60335-1/A12:2006)		N/A

29.3.Z1	If accessible reinforced insulation consists of a single layer, the thickness of this layer shall comply with Table Z1 (EN 60335-1/A12:2006)		N/A
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Z1	TABLE: Minimum thickness for single layer accessible reinforced insulation (EN 60335-1/A12:2006)			N/A
Rated voltage V	Minimum thickness for single layers used for accessible reinforced insulation mm			Verdict
	Overvoltage category I	Overvoltage category II	Overvoltage category III	
< 50	0,01	0,04	0,1	N/A
>50 and ≤ 150	0,1	0,3	0,6	N/A
>150 and ≤ 300	0,3	0,6	1,2	N/A

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Amendment 13:2008 to EN 60335-1:2002			
Clause	Requirement – Test	Result – Remark	Verdict
24	COMPONENTS		—
24.1.7	(Replacement: If the remote operation of the appliance is via a telecommunication network, the relevant standards for the telecommunication interface circuitry in the appliance are EN 41003 and EN 60950-1:2006, Subclause 6.3.		N/A

AMENDMENT 14:2010 TO EN 60335-1:2002

Clause	Requirement – Test	Result – Remark	Verdict
19	ABNORMAL OPERATION		—
19.14	Modification: Add the content of the note to the requirement as follows: If a relay or contactor with more than one contact is used, all contacts are short-circuited at the same time.		N/A
24	COMPONENTS		—
24.1	Replacement:		---
	Components comply with safety requirements in relevant standards		P
	the requirements of Clause 29 of this standard apply between live parts of components and accessible parts of the appliance		P
	the requirements of 30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections inside components		P
	List of components	(see appended table)	P
	Components not tested and found to comply with relevant standard for the number of cycles specified are tested in accordance with 24.1.1 to 24.1.9		P
	Components not tested and found to comply with relevant standard, components not marked or not used in accordance with its marking, tested under the conditions occurring in the appliance		P
	Lampholders and starterholders that have not been previously tested and found to comply with the relevant standard are tested as a part of the appliance and shall additionally comply with the gauging and interchangeability requirements of the relevant standard under the conditions occurring in the appliance.		N/A
25	SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORES		—
25.7	Modification: – Rubber sheathed (code designation 60245 IEC 53) These cords are not suitable for appliances intended to be used outdoors or when they are liable to be exposed to significant amounts of		N/A

Clause	Requirement – Test	Result – Remark	Verdict
	ultraviolet radiation.		
26	TERMINALS FOR EXTERNAL CONDUCTORS		—
26.2	Modification: Change NOTE into requirement: Conductors connected by soldering are not considered to be positioned or fixed so that reliance is not placed upon the soldering alone to maintain it in position unless they are held in place near the terminals independently of the solder.		N/A
26.11	Modification: Change NOTE into requirement: Conductors connected by soldering are not considered to be positioned or fixed so that reliance is not placed upon the soldering alone to maintain it in position unless they are held in place near the terminals independently of the solder.		N/A
29	CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION		—
29.1	Replacement: NOTE 6 Attention is drawn on the fact that for appliances intended for use at altitudes exceeding 2 000 m, the altitude correction factors, relevant to the intended altitude, for clearances specified in Table A.2 of EN 60664-1 may need to be taken into account.		N/A
29.2	Modification: Change NOTE 6 into a requirement. In a double insulation system, the working voltage for both the basic insulation and supplementary insulation is taken as the working voltage across the complete double insulation system. It is not divided according to thickness and dielectric constant of the basic insulation and supplementary insulation.		N/A
32	RADIATION, TOXICITY AND SIMILAR HAZARDS		—
	Addition: Compliance regarding electromagnetic fields is checked according to EN 50366 or EN 62233.		P
ZE	Specific additional requirements for appliances and machines intended for commercial use		N/A
7.1	- business name and full address of the manufacturer and, where applicable, his authorized representative;		N/A
	- model or type reference, serial number, if		N/A

Clause	Requirement – Test	Result – Remark	Verdict
	any, and production year;		
7.12	Instructions shall be provided with the appliance so that the appliance can be used safely.		N/A
	The instructions shall contain at least the following information:		----
	the business name and full address of the manufacturer and, where applicable, his authorized representative;		N/A
	model or type reference of the appliance as marked on the appliance itself, except for the serial number;		N/A
	the designation of the appliance together with its explanation in case it is given by a combination of letters and/or numbers.		N/A
	the general description of the appliance, when needed due to the complexity of the appliance;		N/A
	specific precautions if required during installation, operation, adjusting, user maintenance, cleaning, repairing or moving;		N/A
	when needed drawings, diagrams, descriptions and explanations necessary for the safe use and user maintenance of the appliance;		N/A
	the possible reasonably foreseeable misuse and, whenever relevant, a warning against the effects it may have on the safe use of the appliance;		N/A
	The words "Original instructions" shall appear on the language version(s) verified by the manufacturer or by the authorized representative.		N/A
	When a translation of the original instructions has been provided by a person introducing the appliance on the market; the meaning of the sentence "Translation of the original instructions" has to appear in the relevant instructions delivered with the appliance.		N/A
	The instructions for maintenance/service to be done by specialized personnel, mandated by the manufacturer or the authorized representative may be supplied in only one Community language which the specialized personnel understand.		N/A
	The instructions shall indicate the type and frequency of inspections and maintenance required for safe operation including the preventive maintenance measures.		N/A
7.12.Z1	Wherever needed for specific appliances, information shall be given:		----

Clause	Requirement – Test	Result – Remark	Verdict
	on use, transportation, assembly, dismantling when out of service, testing or foreseeable breakdowns, if these operations have consequences on stability of the appliance in order to avoid overturning, falling or uncontrolled movements of the appliance or of its component parts;		N/A
	on how to maintain adequate mechanical stability when in use, during transportation, assembly, dismantling, scrapping and any other action involving the appliance;		N/A
	on the protective measures to be taken by the user, including, where appropriate, the personal protective equipment to be provided;		N/A
	on the operating method to be followed in the event of accident or breakdown; if a blockage is likely to occur the operating method to safely unblock the appliance;		N/A
	on the specifications on the spare parts to be used, when these affect the health and safety of the operator;		N/A
	on airborne noise emissions, determined and declared in accordance with the relevant Part 2.		N/A
19.11.4.8	The appliance shall continue to operate, without causing any hazard to the user, from the same point in its operating cycle at which the voltage fluctuation occurred, or a manual operation shall be required to restart it.		N/A
20.1	Appliances and their components and fittings shall have adequate mechanical stability during transportation, assembly, dismantling and any other action involving the appliance.		N/A
20.2	Dangerous moving transmission parts shall be safeguarded either by design or guards . When guards are used, they shall be fixed guards , interlocking movable guards or protective devices.		N/A
	Moving parts directly involved in the function of the appliance which cannot be made completely inaccessible shall be fitted with:		----
	— fixed guards or interlocking movable guards preventing access to those sections of the parts that are not used in the work; and		N/A
	— adjustable guards restricting access to those sections of the moving parts where access is necessary.		N/A
	Interlocking movable guards (e.g. the door of a washing machine) shall be used where frequent access is required.		N/A

Clause	Requirement – Test	Result – Remark	Verdict
21.1	Appliances and their components and fittings shall have adequate mechanical strength and be constructed to withstand such rough handling that may be expected in normal use, during transportation, assembly, dismantling, scrapping and any other action involving the appliance.		N/A
22.ZE.1	For appliances provided with a seat, the seat has to give adequate stability. The distance between the seat and the control devices shall be capable of being adapted to the operator.		N/A
22.ZE.2	For appliances provided with separate devices for the start and the stop functions, the stop function shall be unambiguously identifiable and shall always override the start function.		N/A
	For appliances provided with one device performing the start and the stop function, the stop function shall be unambiguously identifiable and shall always override the start function.		N/A
22.ZE.3	Appliances shall be designed in such a way that incorrect mounting is avoided, if this can lead to an unsafe situation. If this is not possible, information on the correct mounting shall be given directly on the part and/or the enclosure.		N/A
22.ZE.4	Where the weight, size or shape prevents appliances from being moved manually, they shall be fitted with attachments for lifting gear or be designed so they can be fitted with such attachments, or be shaped in such a way that standard lifting gear can easily be used.		N/A
	Appliances to be moved manually shall be constructed or shall be equipped so that they can be moved easily and safely.		N/A
22.ZE.5	The fixing systems of fixed guards which prevent access to dangerous moving transmission parts shall only be removable with the use of tools.		N/A
	If such guards have to be removed frequently their fixing systems shall remain attached to the fixed guards or to the machine after removal. Where possible, guards shall be incapable of remaining in place without their fixings.		N/A
	This does not apply if, after removal of the screws, or if the component is incorrectly repositioned, the appliance becomes inoperative.		N/A
	If movable guards are interlocked, the interlocking devices shall prevent the start of		N/A

Clause	Requirement – Test	Result – Remark	Verdict
	hazardous appliance functions until the guards are fixed in their position, and give a stop command whenever they are no longer closed		
	Where it is possible for an operator to reach the danger zone before the risk due to hazardous appliance functions has ceased, movable guards shall be associated with a guard locking device in addition to an interlocking device that:		----
	— prevents the start of hazardous appliance functions until the guard is closed and locked, and		N/A
	— keeps the guard closed and locked until the risk of injury from the hazardous appliance functions has ceased.		N/A
	Interlocking movable guards shall remain attached to the appliance when open and they shall be designed and constructed in such a way that they can be adjusted only by means of an intentional action.		N/A
	Interlocking movable guards shall be designed in such a way that the absence or failure of one of their components prevents starting or stops the hazardous appliance functions.		N/A
	Adjustable guards restricting access to those areas of the moving parts strictly necessary for the work shall be:		----
	— adjustable manually or automatically, depending on the type of work involved, and		N/A
	— readily adjustable without the use of tools.		N/A
22.ZE.6	In case of interruption, re-establishment after an interruption or fluctuation in whatever manner of the power supply, the appliance shall not restart, however automatic restarting of the operation is allowed if the appliance may continue to operate, without causing any hazard to the user, from the same point in its operating cycle at which the voltage interruption or fluctuation occurred.		N/A
Annex ZF	Criteria applied for the allocation of products covered by standards in the EN 60335 series under LVD or MD		P
Annex ZZ	Coverage of Essential Requirements of EC Directives		N/A

AMENDMENT 15: 2011 TO EN 60335-1: 2002			
Clause	Requirement – Test	Result – Remark	Verdict
25	Supply connection and external flexible cords		--
25.7	Add the following text after the last dash and before the paragraph regarding "Supply cords for class III appliances":		N/A
	– Halogen-free thermoplastic compound sheathed. Their properties shall be at least those of:		N/A
	halogen-free thermoplastic compound sheathed cords (code designation H03Z1Z1H2-F, H03Z1Z1-F), for appliances having a mass not exceeding 3 kg;		N/A
	halogen-free thermoplastic compound sheathed cords (code designation H05Z1Z1H2-F or H05Z1Z1-F), for other appliances;		N/A
	– Cross-linked halogen-free compound sheathed.		N/A
	Their properties shall be at least those of cross-linked halogen-free compound sheathed cords (code designation H07ZZ-F).		N/A
Annex ZC	Add the following after EN 50366: EN 50525-3-11 - Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (U0/U) – Part 3-11: Cables with special fire performance - Flexible cables with halogen-free thermoplastic insulation, and low emission of smoke EN 50525-3-21 - Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (U0/U) – Part 3-21: Cables with special fire performance - Flexible cables with halogen-free crosslinked insulation, and low emission of smoke Replace footnote 3) by the following: 3) EN 50525 series, which is related to, but not directly equivalent with the IEC 60227 series, applies instead. Replace footnote 4) by the following: 4) EN 50525 series, which is related to, but not directly equivalent with the IEC 60245 series, applies instead.		N/A

AMENDMENT 2:2009 TO EN 60335-2-40:2003

Clause	Requirement – Test	Result – Remark	Verdict
7	MARKING AND INSTRUCTIONS		—
7.1	(Addition:) - the maximum operating pressure for the heat exchanger for hydronic fan coil/air handling units. (EN 60335-2-40/A2:2009)		N/A

11	HEATING		—
11.2	(Addition:) except for fan coils where the flow rates and liquid temperatures shall be the maximum specified in the manufacturer's instructions; (EN 60335-2-40/A2:2009)		N/A
11.8	(Replacement:) External enclosure of appliances with or without supplementary heaters, not exceeding 85°C. (EN 60335-2-40/A2:2009)		P

15	MOISTURE RESISTANCE		—
15.1	(Replacement:) The motor-compressor is not operated and detachable parts are removed during the tests of 15.2 and 15.3. (EN 60335-2-40/A2:2009)		P
15.101	(Addition:) Spillage test as specified, unless (EN 60335-2-40/A2:2009)		N/A
	The minimum linear dimension of a horizontal or near horizontal top surface of the cabinet is 75 mm or less. (EN 60335-2-40/A2:2009)		N/A
	A unit whose top, when installed, has a height of greater than 2 m, need not be tested. (EN 60335-2-40/A2:2009)		P

19	ABNORMAL OPERATION		—
19.10.101	(Addition:) The test of 19.10 is repeated on class 0I appliances and class I appliances incorporating tubular sheathed or embedded heating elements. (EN 60335-2-40/A2:2009)		N/A
	However, controls are not short-circuited but one end of the element is connected to the sheath of the heating element.		N/A

Clause	Requirement – Test	Result – Remark	Verdict
	(EN 60335-2-40/A2:2009)		
	The test is repeated with the polarity of the supply to the appliance reversed and with the other end of the element connected to the sheath. (EN 60335-2-40/A2:2009)		N/A
	The test is not carried out on appliances intended to be permanently connected to fixed wiring and on appliances where an all-pole disconnection occurs during the test of 19.10. (EN 60335-2-40/A2:2009)		N/A
19.14	(Amendment:) During the tests of 19.2 to 19.10.101 and 19.11, 19.12 and 19.13 if appropriate, the appliances shall not emit flames or molten metal, or poisonous or ignitable gas in hazardous amounts. (EN 60335-2-40/A2:2009)		P
19.101	(Addition:) All appliances provided with supplementary heaters and with free air discharge are subjected to the specified test in each mode of operation. (EN 60335-2-40/A2:2009)		N/A
	During the test the temperature shall not exceed 150 °C but an overshoot of 25 °C is permitted during the first hour. (EN 60335-2-40/A2:2009)		N/A

21	MECHANICAL STRENGTH		—
21.1	(Replacement:) Safety requirements specified in ISO 5149 shall apply. (EN 60335-2-40/A2:2009)		P

22	CONSTRUCTION		—
22.102	(Replacement:) Appliances provided with supplementary heaters (EN 60335-2-40/A2:2009)		—
22.102.1	Appliances provided with supplementary heaters for air shall be provided with at least two thermal cut-outs (the first one shall be a self-resetting and the other shall be a non-self-resetting thermal cut-out). (EN 60335-2-40/A2:2009)		N/A
22.102.2	Appliances provided with supplementary heaters for water shall incorporate a non-self-resetting thermal cut-out, providing all-pole disconnection that operates separately from		N/A

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Clause	Requirement – Test	Result – Remark	Verdict
	water thermostats. (EN 60335-2-40/A2:2009)		
	However, for appliances intended to be connected to fixed wiring, the neutral conductor need not be disconnected. (EN 60335-2-40/A2:2009)		N/A
22.102.3	Thermal cut-outs of the capillary type shall be so designed that the contacts open in the event of leakage of the capillary tube (EN 60335-2-40/A2:2009)		N/A

IEC 60335-2-65:2002 +A1:2008
EN 60335-2-65:2003 +A1:2008

Clause	Requirement – Test	Result – Remark	Verdict
16	LEAKAGE CURRENT AND ELECTRIC STRENGTH		---
16,101	High-voltage transformers must have adequate internal insulation, The duration of the test is ,, sec, (IEC 60335-2-65)	Certified Plasma Generator: XS-PL-06	P
32	RADIATION, TOXICITY AND SIMILAR HAZARDS		---
	The ozone concentration produced by ionozation is not excessive and shall not exceed 5×10^{-8} (IEC/EN 60335-2-65)	Maximum: $1,22 \times 10^{-9}$	P

---End of Report---